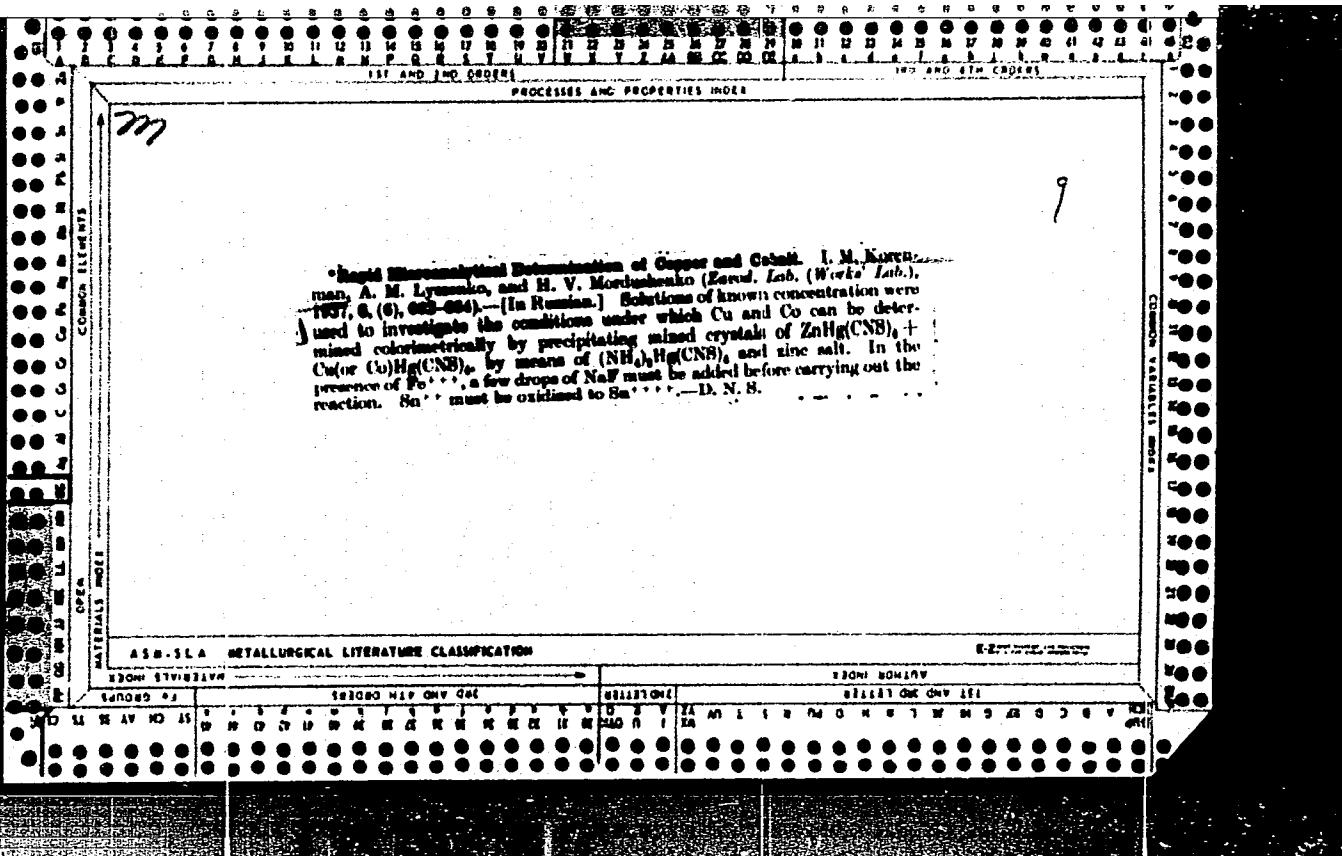
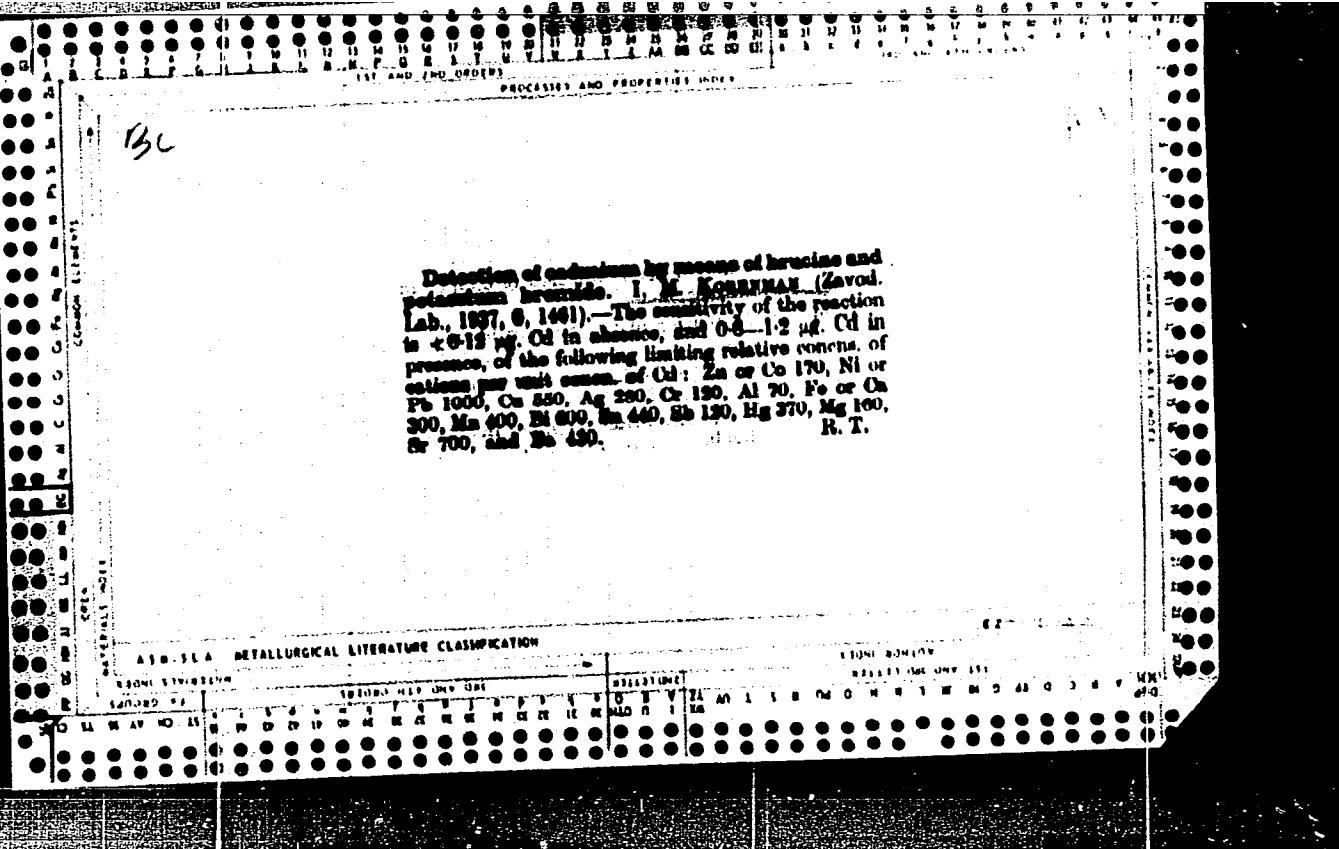


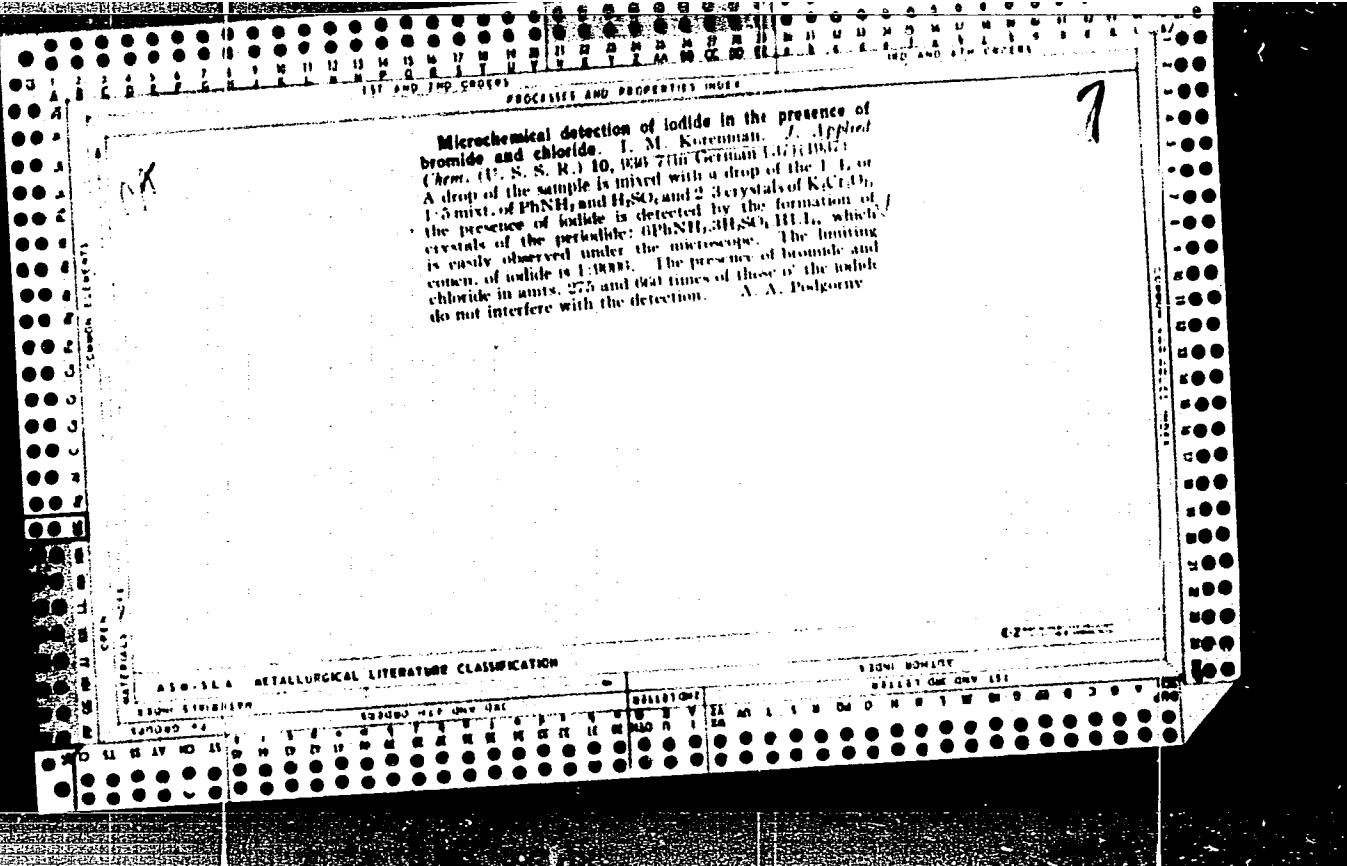
ca

**Microchemical detection of certain metals in alloys.**  
 I. M. Sorenson. *Zavodskaya Lab.*, 6, 308-11 (1937).—  
 Full details are given for the detection of metals in coatings  
 and alloys by means of sp. reagents and microscopic ex-  
 amn. The metals are detd. with 1 or 2 filing fragments  
 (0.1-0.2 mm.) or directly on the surface without damaging  
 the article to be assayed. Cu is detected as a violet cryst.  
 mixt. of  $CuHg(SCN)_4$  and  $CdHg(SCN)_4$  by surface etching  
 with 2-3 drops of 2-3 N  $HNO_3$  contg.  $NaNO_3$  and then  
 adding 10-20%  $Cd(NO_3)_2$  and  $(NH_4)_2Hg(SCN)_4$  to the  
 spot on a glass slide. Sn forms colorless  $Rb_2SnCl_6$  octa-  
 hedrons with 0.5%  $RbCl$  in conc'd. HCl after exposure to  
 Br fumes. Pb can be detd. (1) as colorless long needles of  
 $KPbI_3$  with a drop of HCl contg. KI, which with  $H_2O$  give  
 yellow  $PbI_3$  crystals, (2) as  $PbCrO_4$  with a satd.  $K_2Cr_2O_7$   
 in 2 N  $HNO_3$  dill. with an equal vol. of the same acid.

For the detection of Sb, 1 fragment with 1 drop of  $HNO_3$   
 on a slide is evapd. to dryness. The ppt. of Sb and Sn  
 oxides is freed from Bi and other salts with a few drops of  
 $HNO_3$  and then with a water stream. The residue is  
 then treated with the 0.5%  $RbCl$  in HCl and a KI crystal  
 and heated over alc. flame, forming orange-red hexagonal  
 and plate-like crystals of  $Rb_2SbI_6 \cdot 2.5 H_2O$ , which can be  
 easily distinguished from any  $Rb_2SnCl_6$  formed in the pres-  
 ence of Sn. Ag treated with satd.  $K_2Cr_2O_7$  soln. in 50%  
 $HNO_3$  gives orange-red  $AgCrO_4$  (Pb gives no ppt. with  
 the reagent at this acid concn.). Ni is detd. as red Ni di-  
 methylglyoxime crystals by treating a fragment or the  
 metal surface with a small drop of 2 N  $HNO_3$  contg.  $HNO_3$   
 and then with  $NH_3$  fumes and a drop of the soln. (1 vol. of  
 satd. dimethylglyoxime in conc'd.  $NH_4OH$  and 2 vols. of  
 95% alc.). Fe gives a red soln. but no ppt. To detect Al,  
 a fragment with a drop of  $HNO_3$  (HCl) is dried over alc.  
 flame. The residue, after the addn. of  $CuSO_4$  and wet-  
 ting with breath vapors, is stirred with a glass rod, forming  
 colorless  $CaAl(SO_4)_2 \cdot 12 H_2O$  octahedrons. Pure Al (foil,  
 wire, sheet, etc.) is best detd. by the Mendeleev method  
 based on rapid decomprn. of Al by  $HgCl_2$  (1% wt. soln.).







**Sensitive microchemical tests for permanganate.** J. M. Korenman, *J. Applied Chem.*, 11, S. 8, 10, 60, 70 (1971) (in German). If a crystal of alkali perborate is dissolved in a drop of soln. contg. a little  $MnO_4^-$ , the addn. of  $RbNO_3$  causes precip. of  $RbClO_4$ , which is colored pink or pinkish violet by adsorbed  $MnO_4^-$ . One g.  $MnO_4^-$  in 25 l. of soln. can be detected. If to the soln.  $Na_2SO_4$  and  $AgNO_3$  crystals are added, the  $Ag_2SO_4$  ppt. is black, violet-brown, grayish violet or pink if  $MnO_4^-$  is present. This test detects 1 part  $MnO_4^-$  in 280,000 parts of soln.

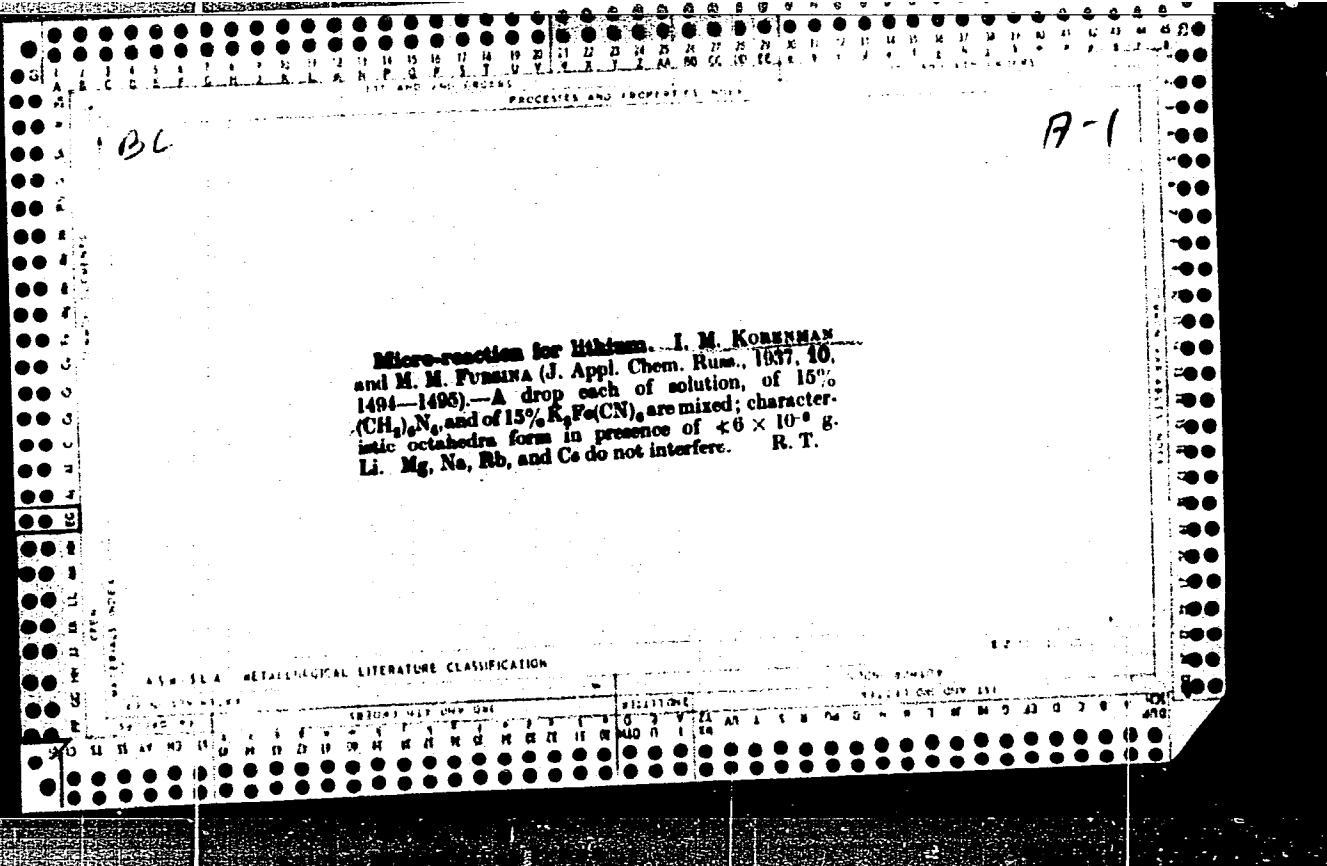
A. A. Pankotny

## 410-11A METALLURGICAL LITERATURE CLASSIFICATION

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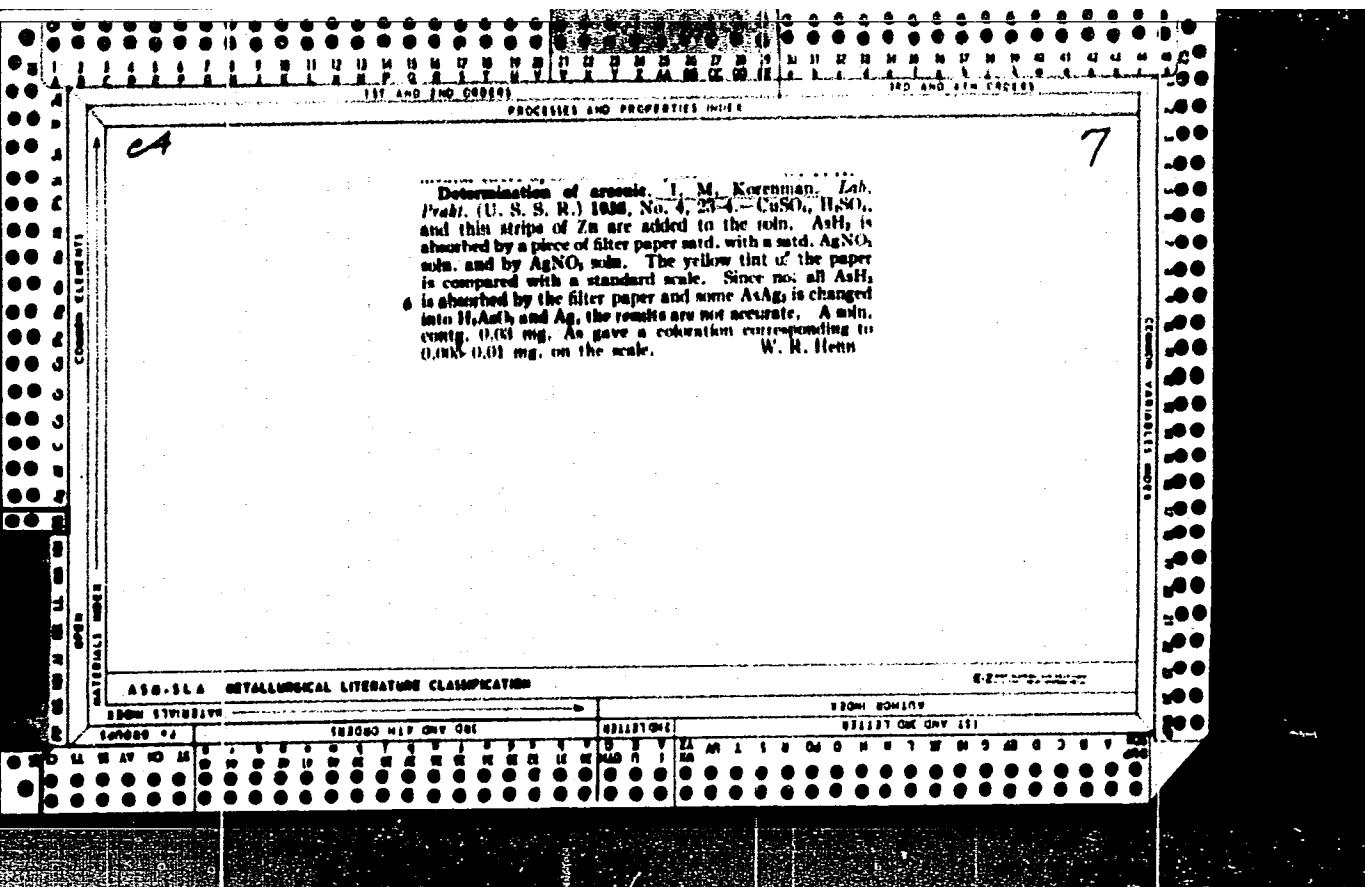


**Microchemical reactions of caesium and rubidium.** 1. M. Kouranen and G. Ya. Vagnyayinskaya. *J. Applied Chem. (U.S.S.R.)*, 10, 1610-1619 (in German) (1937).  
 (1) Evap. a drop of the soln. to dryness and treat with a soln. of a mixt. of  $K_2Fe(CN)_6$  and  $Pb(AcO)_2$ . A yellow-orange ppt. shows the presence of Cs. The reaction detects 0.01% Cs (1:5000), but the presence of sulfate and large amounts of chloride interferes with the reaction. The presence of other alkali metals does not interfere. (2) Treat a drop of unknown soln. with small crystal of  $KBiI_3$ ; the presence of Cs or comparatively large amounts of Rb is shown by the formation of orange-red regular hexagons. The sensitivity of the reaction for Cs is 0.001% and for Rb 3%. (3) Treat a drop of unknown with a drop of soln. of 10%  $AuCl_4$  and 10%  $PdCl_2$ . A black ppt. in the form of hexagons and squares is formed by Cs or Rb (the sensitivity 0.01% and 0.1% respectively) and the cations of the fifth period do not interfere. (4) Treat a drop of the Cs or Rb soln. in the presence of  $H_2SO_4$  with  $Ba_2(SO_4)_2$  soln. This detects 3% Cs<sup>+</sup> or Rb<sup>+</sup> in the presence of not over 90% K<sup>+</sup>. *See reference.* 2. A. Padgurny

#### 430.514 METALLURGICAL LITERATURE CLASSIFICATION

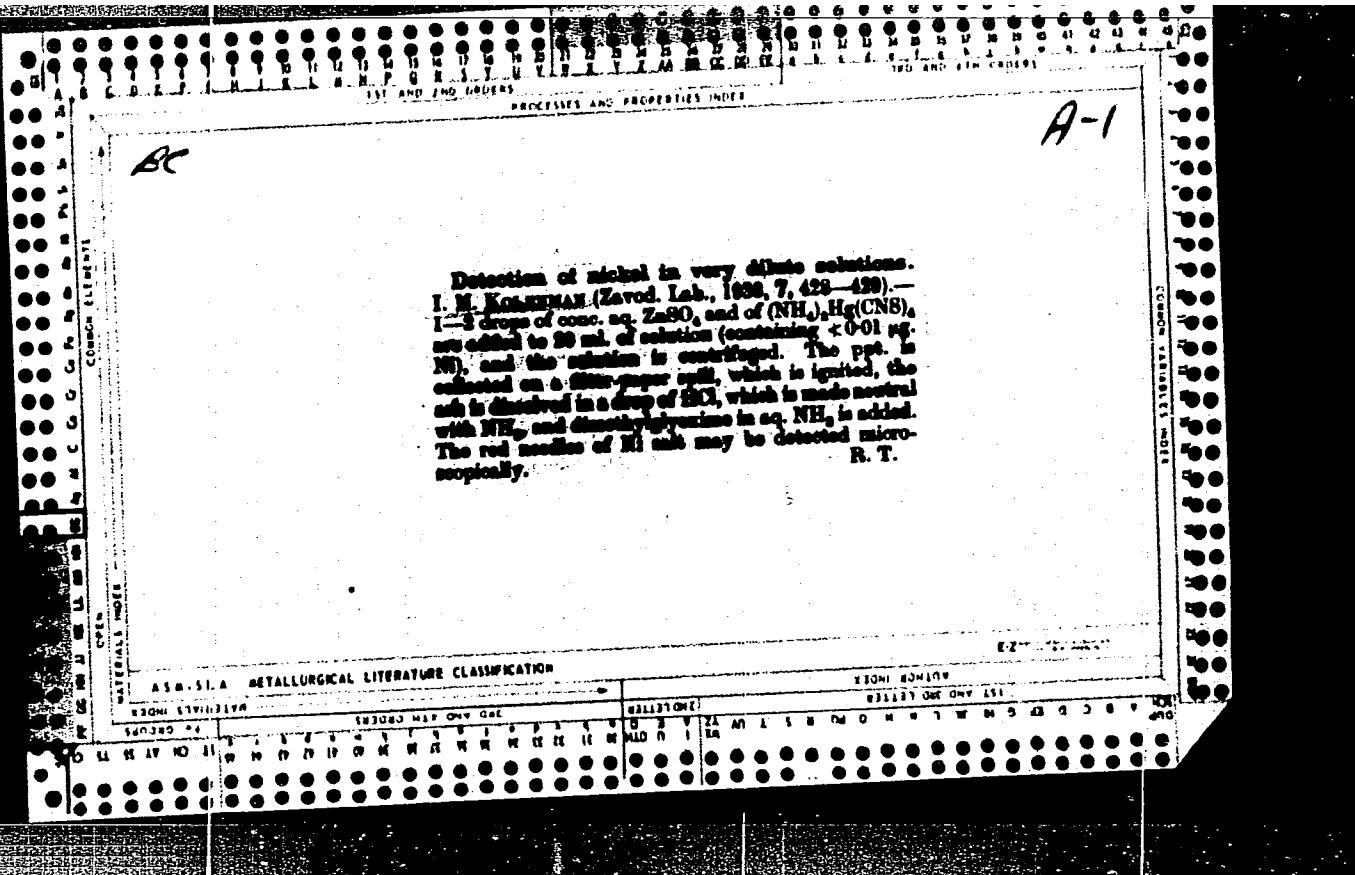
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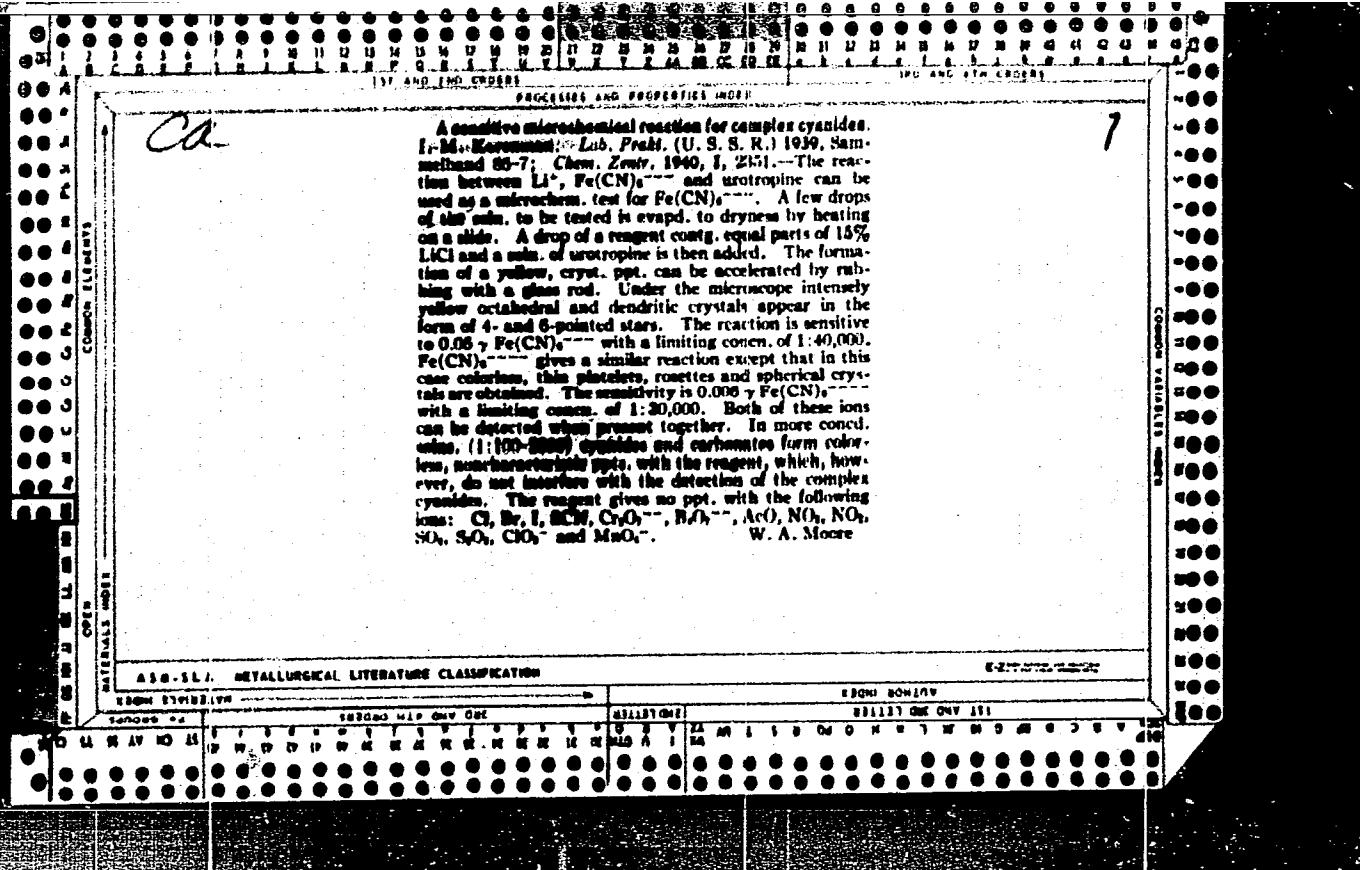
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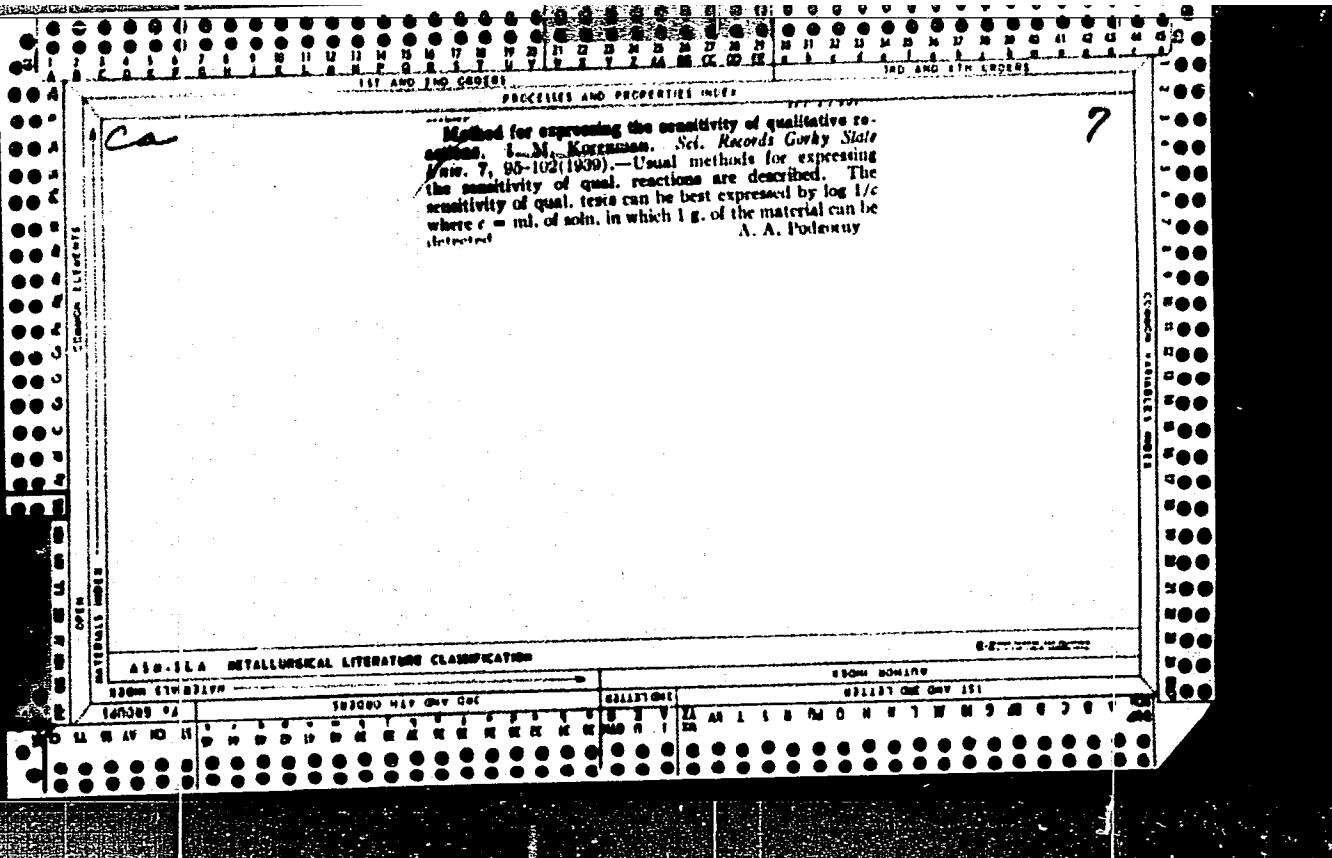


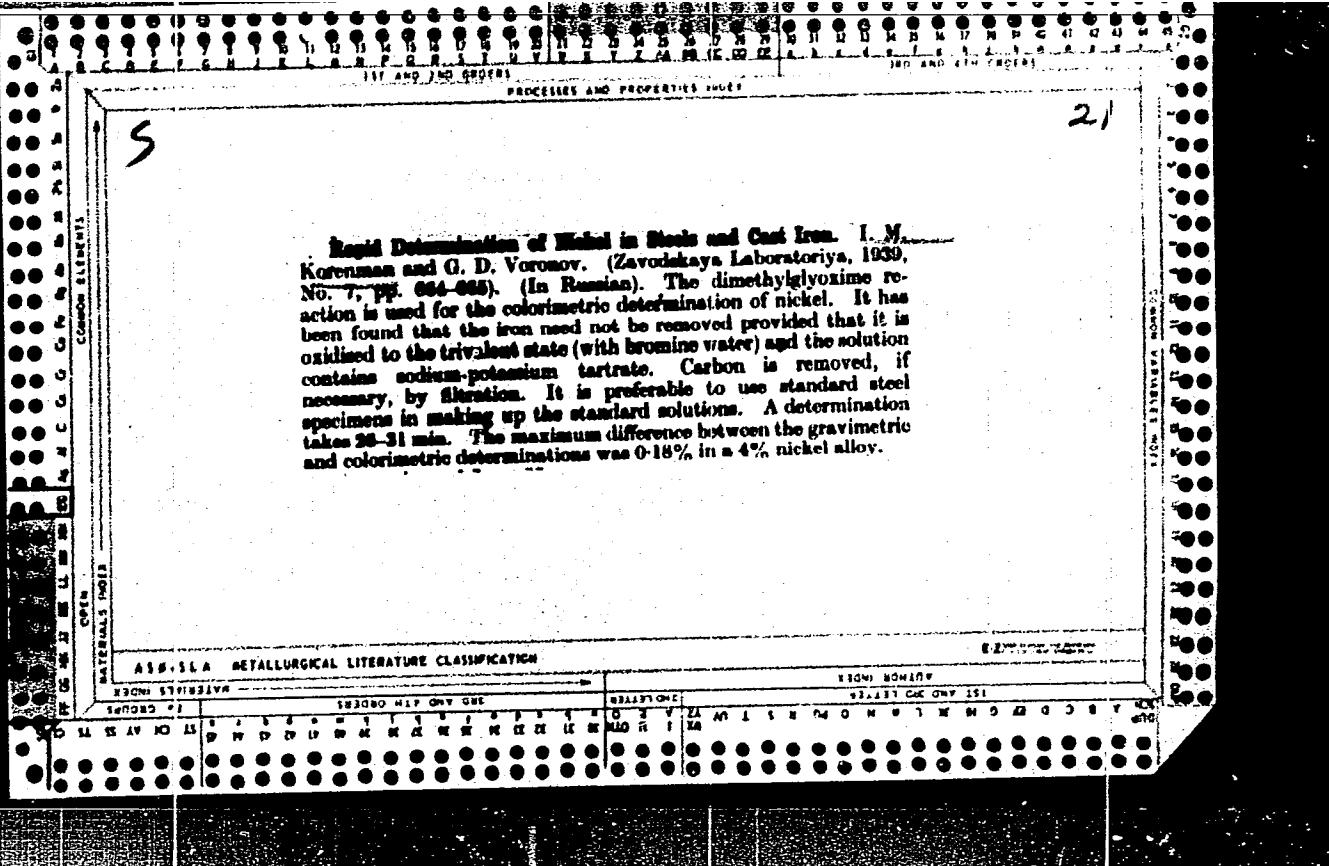
Detection of nickel in very dilute solutions.  
I. M. KOLTHAMAN (Zavod. Lab., 1939, 7, 423-429).—  
1-2 drops of conc. aq.  $ZnSO_4$  and of  $(NH_4)_2Hg(CNS)_4$   
are added to 20 ml. of solution (containing < 0.01 mg.  
 $Ni^{+2}$ ), and the mixture is centrifuged. The ppt. is  
collected on a filter-paper spot, which is ignited, the  
ash is dissolved in a drop of  $HCl$ , which is made neutral  
with  $NH_3$ , and dimethylglyoxime in aq.  $NH_3$  is added.  
The red residue of  $Ni$  salt may be detected micro-  
scopically.

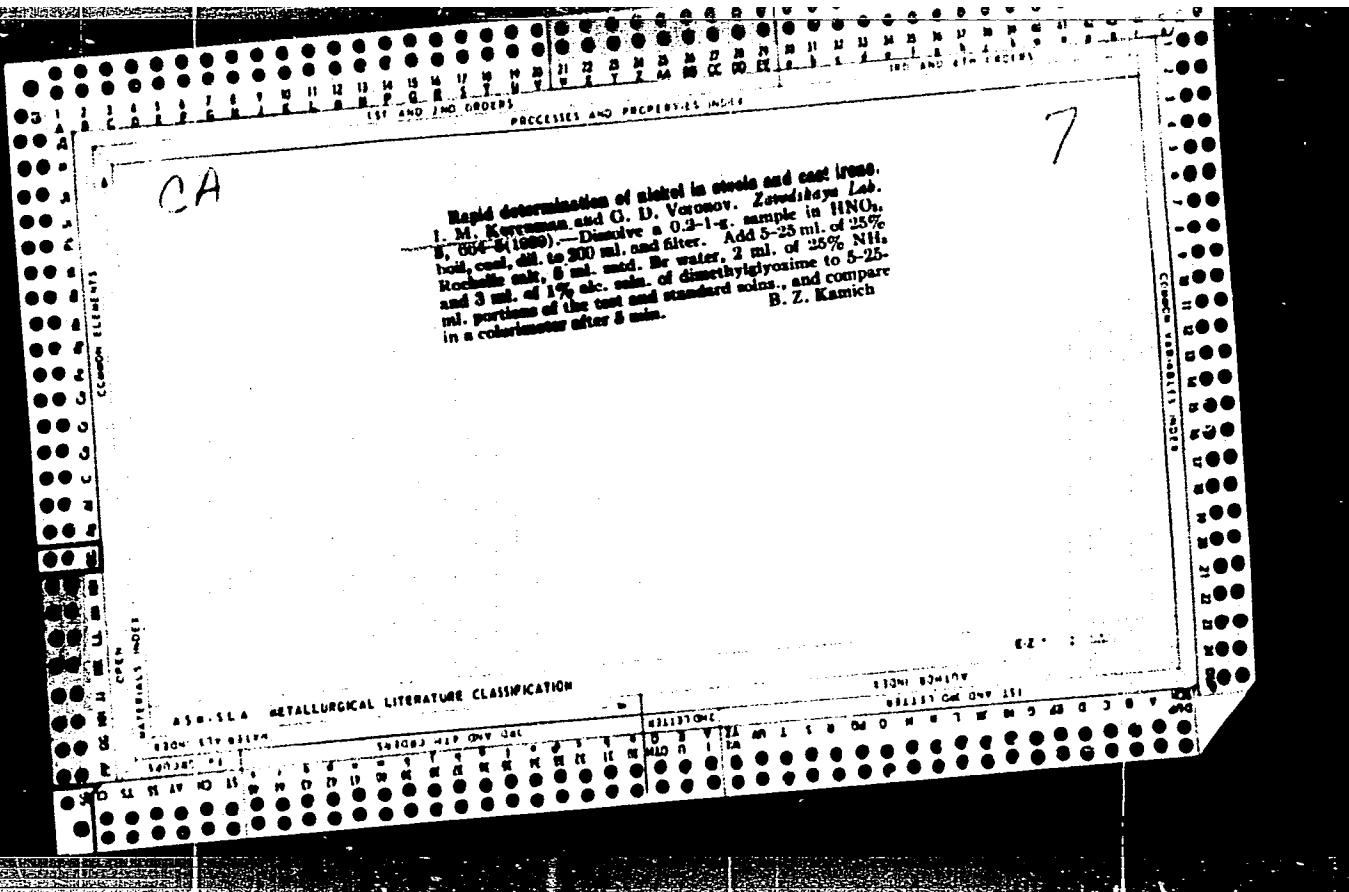
A-1

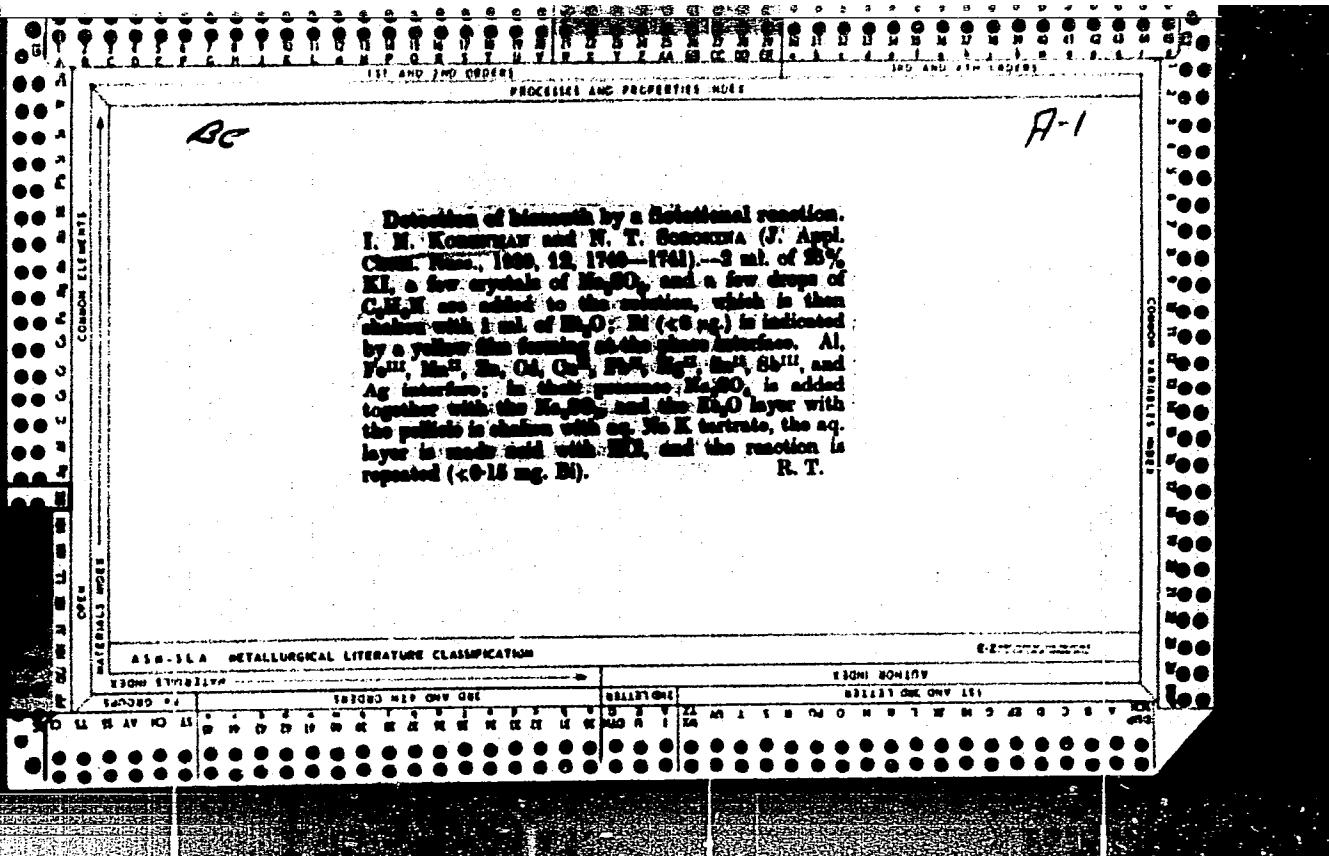


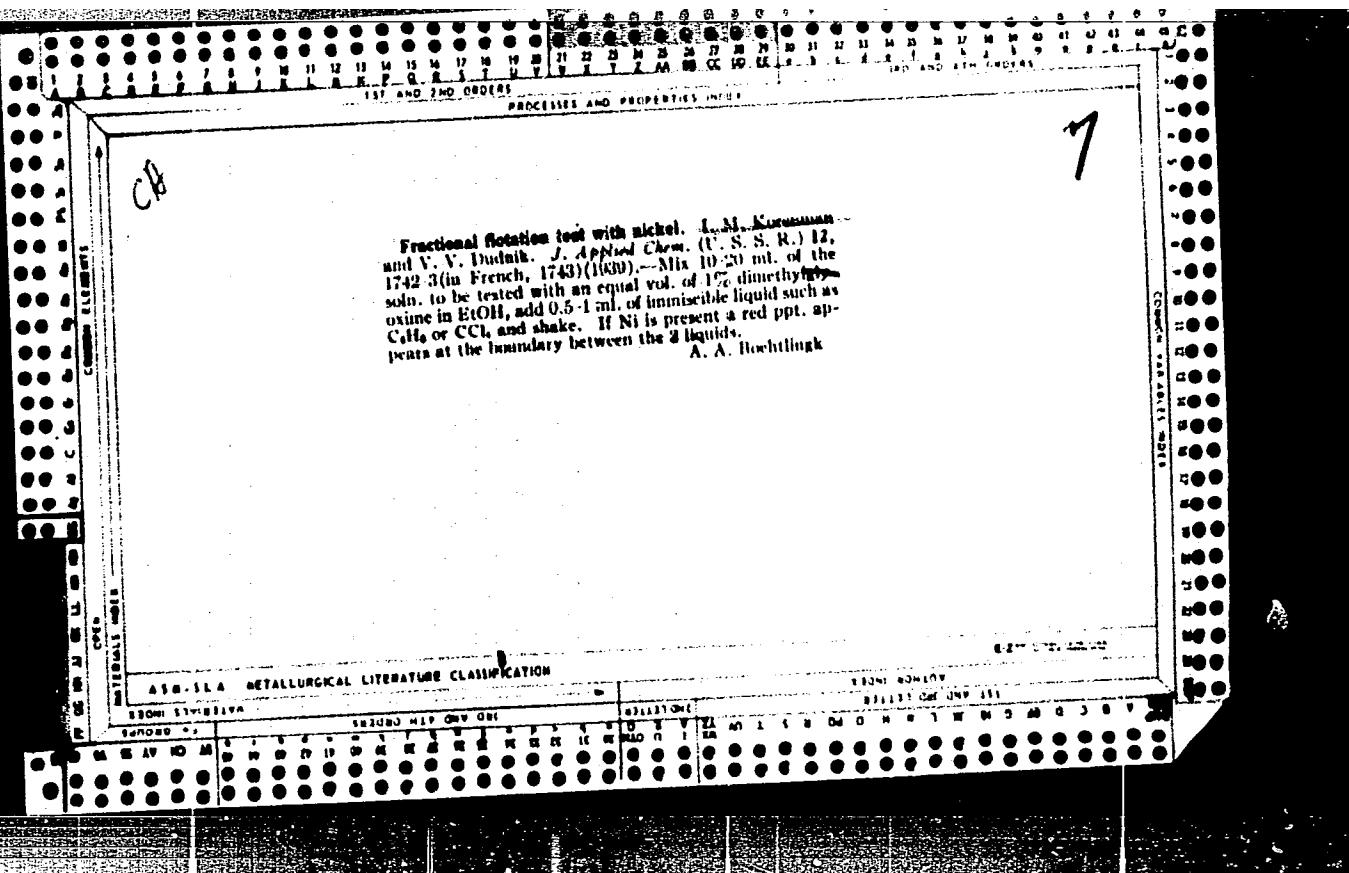


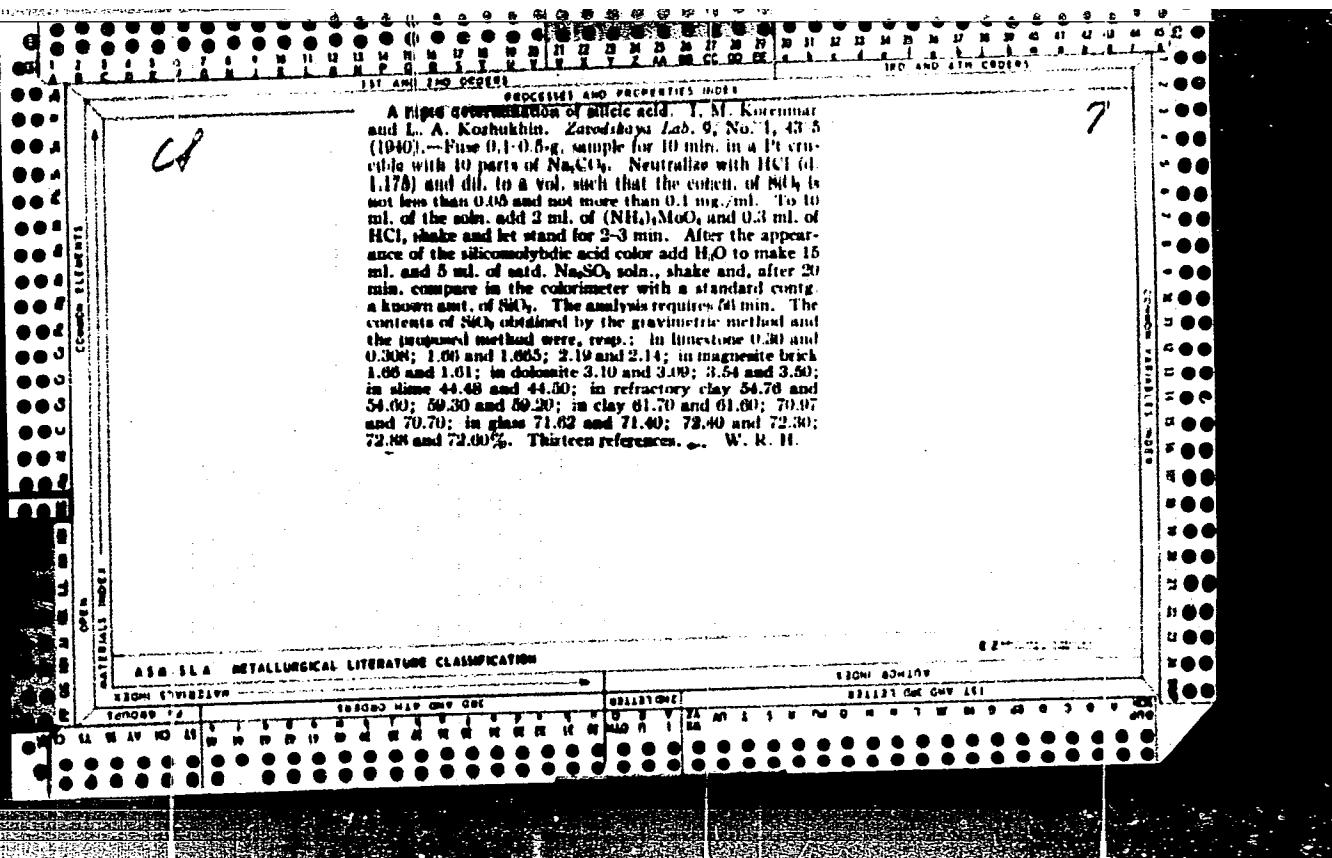












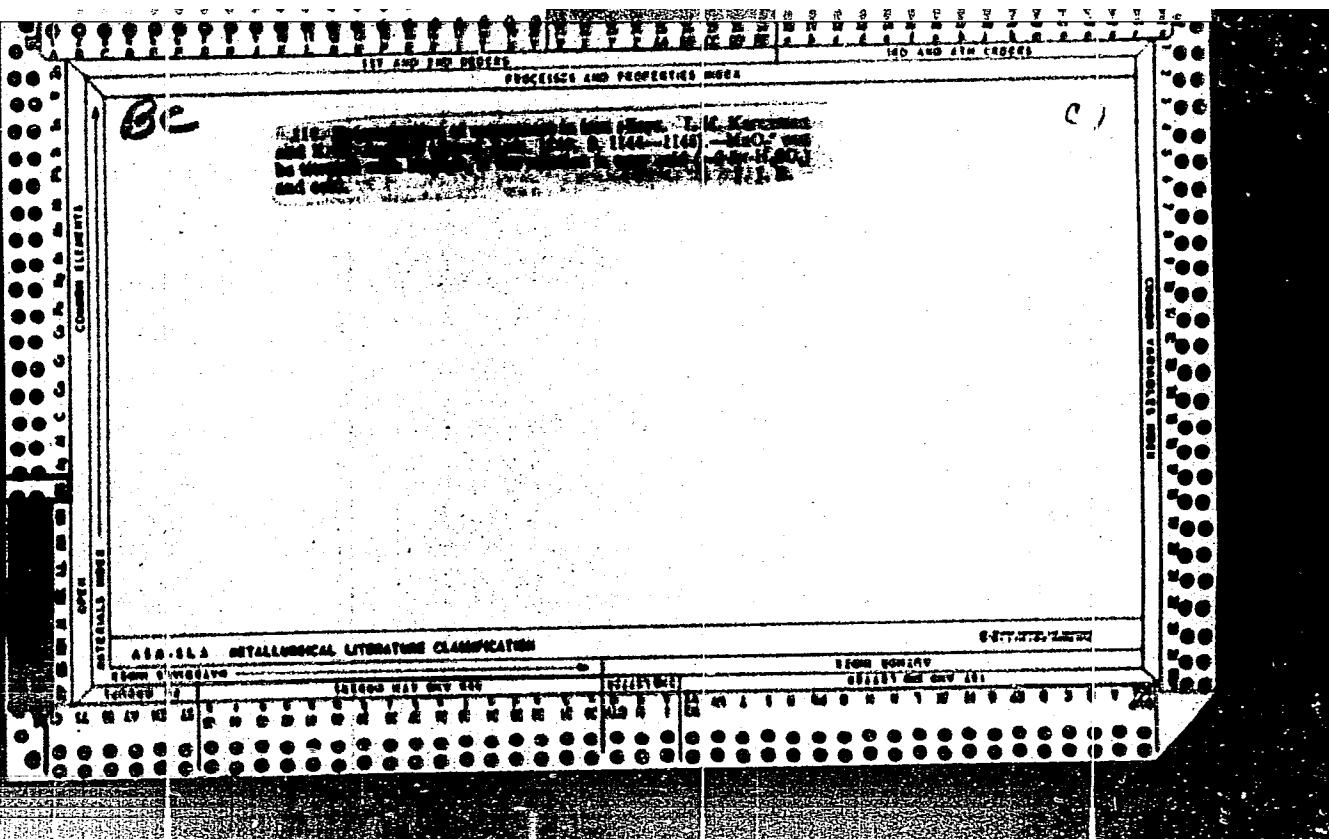
9

MA  
A Rapid Determination of Copper. I. M. Kostomarov and N. G. Minina  
(Zemel. Zash. (Works' Zash.), 1940, 8, 469-470; Khim. Referat. Zhur., 1940,  
(Zemel. Zash. (Works' Zash.), 1940, 8, 469-470; Khim. Referat. Zhur., 1940,  
(10/11), 53; C. Abstr., 1943, 27, 1086).—[In Russian.] Dissolve 0.3 gram of  
sample in hot HNO<sub>3</sub>. Boil off oxidized N. Add 50 c.c. of 2% H<sub>2</sub>SO<sub>4</sub>. 2  
drops of strong Al<sub>2</sub>(HPO<sub>4</sub>)<sub>3</sub> solution, and 10 c.c. of 3%  
Al<sub>2</sub> solution. Treat with Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>.

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A.S.S.

Chemistry & Physics

Review of works of Soviet authors on quantitative micro-analysis. I. M. Kostinik, Zemel'skaya Lab., 9 [10] 1185-86 (1940); Khim. Referat. Zhur., 4 [3] 47 (1941).  
M.Ho.

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Photostation reaction for aluminum. I. M. Kondratenko (J. Appl. Chem. Russ., 1940, 13, 309-310).—5 ml. of solution are made alkaline with eq. NH<sub>3</sub> acid with AcOH, and 2-3 ml. of buffer solution (pH 4.5-5.5) are added, followed by 3-4 drops of 1% aluminum solution. The mixture is shaken with 1 ml. of CHCl<sub>3</sub>, when a red film forms at the phase interface in presence of 0.05-0.1 mg. of Al; Fe<sup>II</sup>, Co<sup>II</sup>, Zn, Ni<sup>II</sup>, and Mn<sup>II</sup> do not interfere, except in very large excess.

R. T.

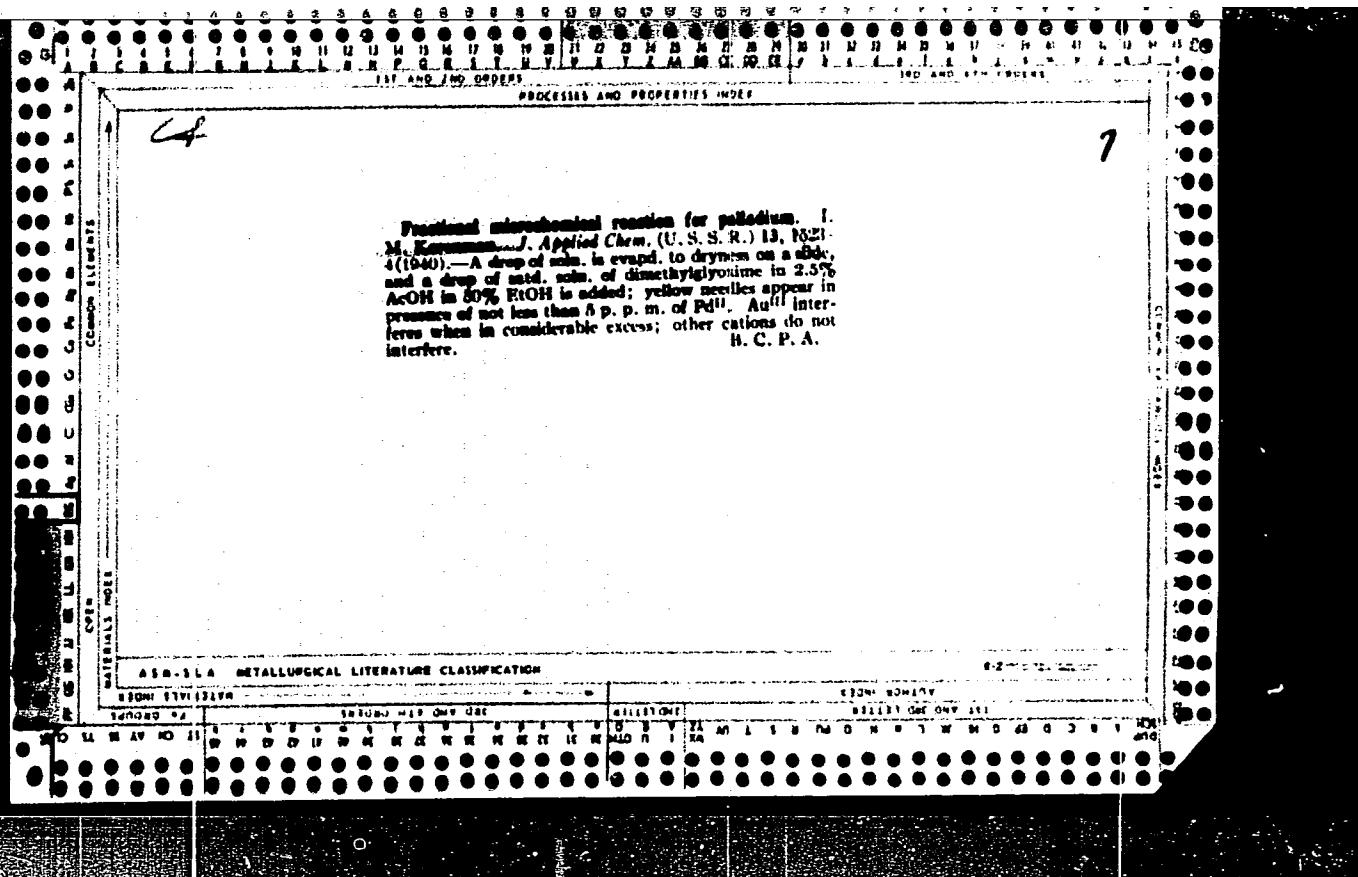
AMERICA METALLURGICAL LITERATURE CLASSIFICATION

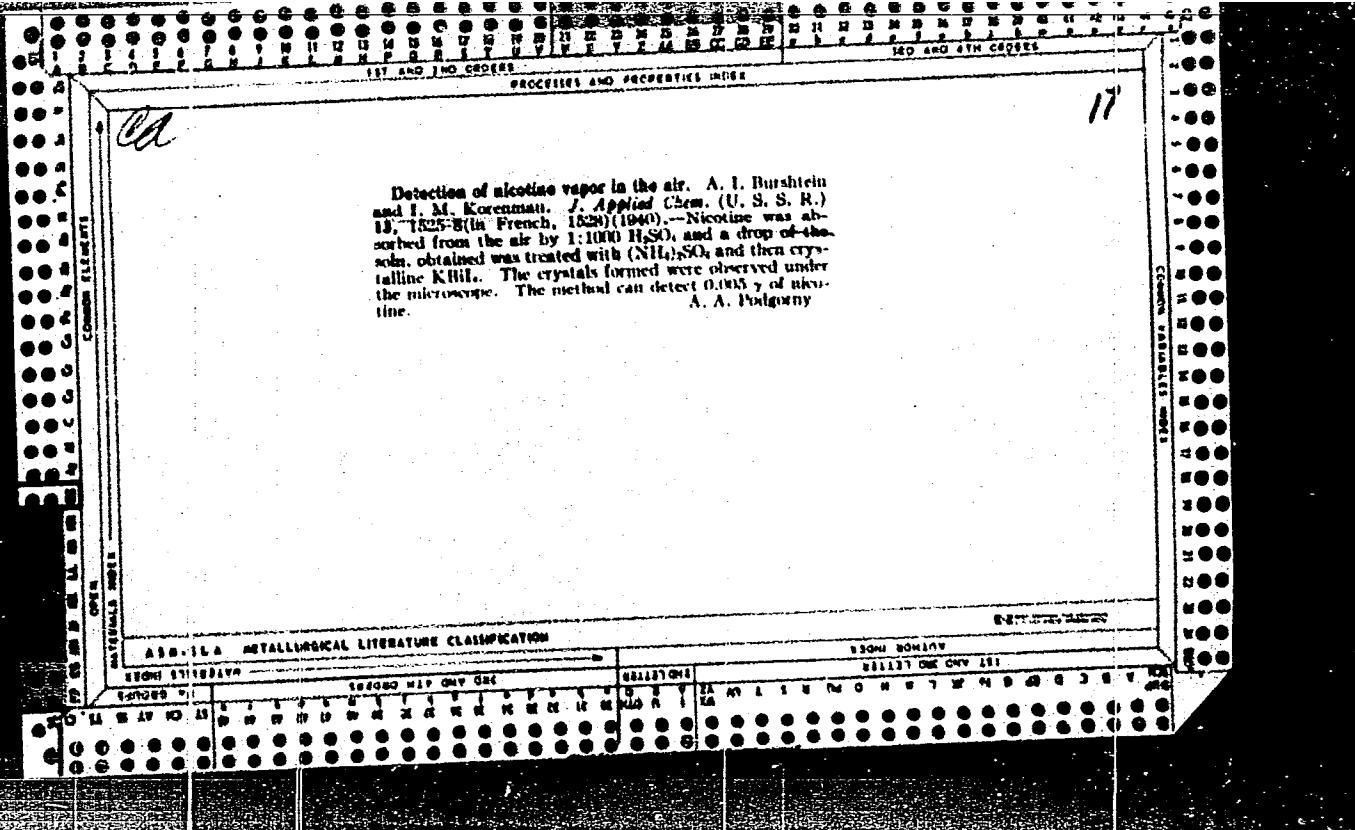
A fractional distillation test for copper. I. M. Korkman and A. I. Andrus. *J. Applied Chem.* (U. S. S. R.) 13, 1293-95 (in French, 1263) (1960).—Take the min. containing  $Cu^{+2}$  with  $Bi_2O_3$  in the presence of  $K_2SCN$  and  $NH_4OH$ . A yellow color or ppt. in the  $Bi_2O_3$  layer shows the presence of  $Cu^{+}$ . As little as  $0.5\text{ mg}$  in 5 ml. can be detected. A. A. P.

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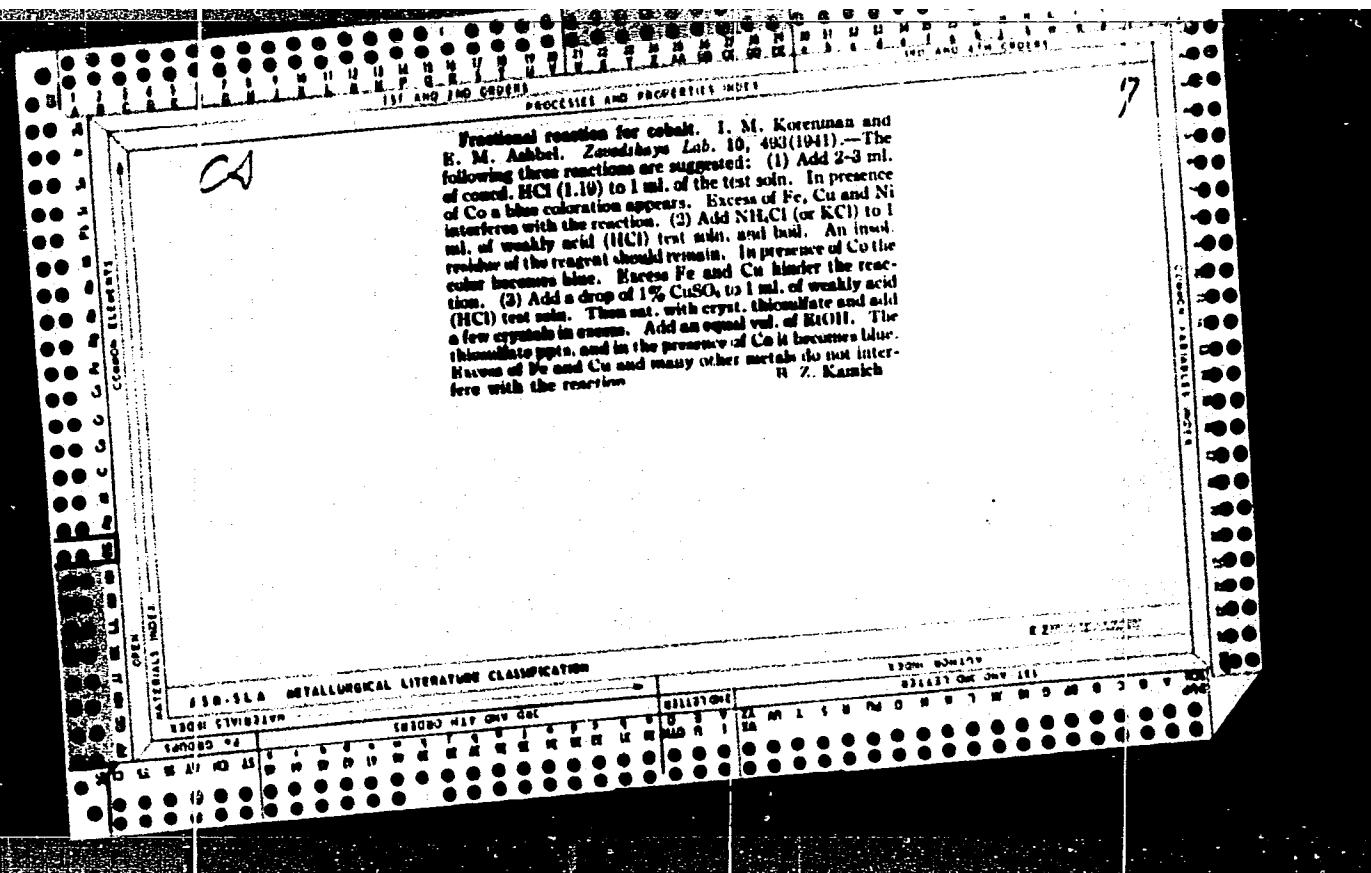
97

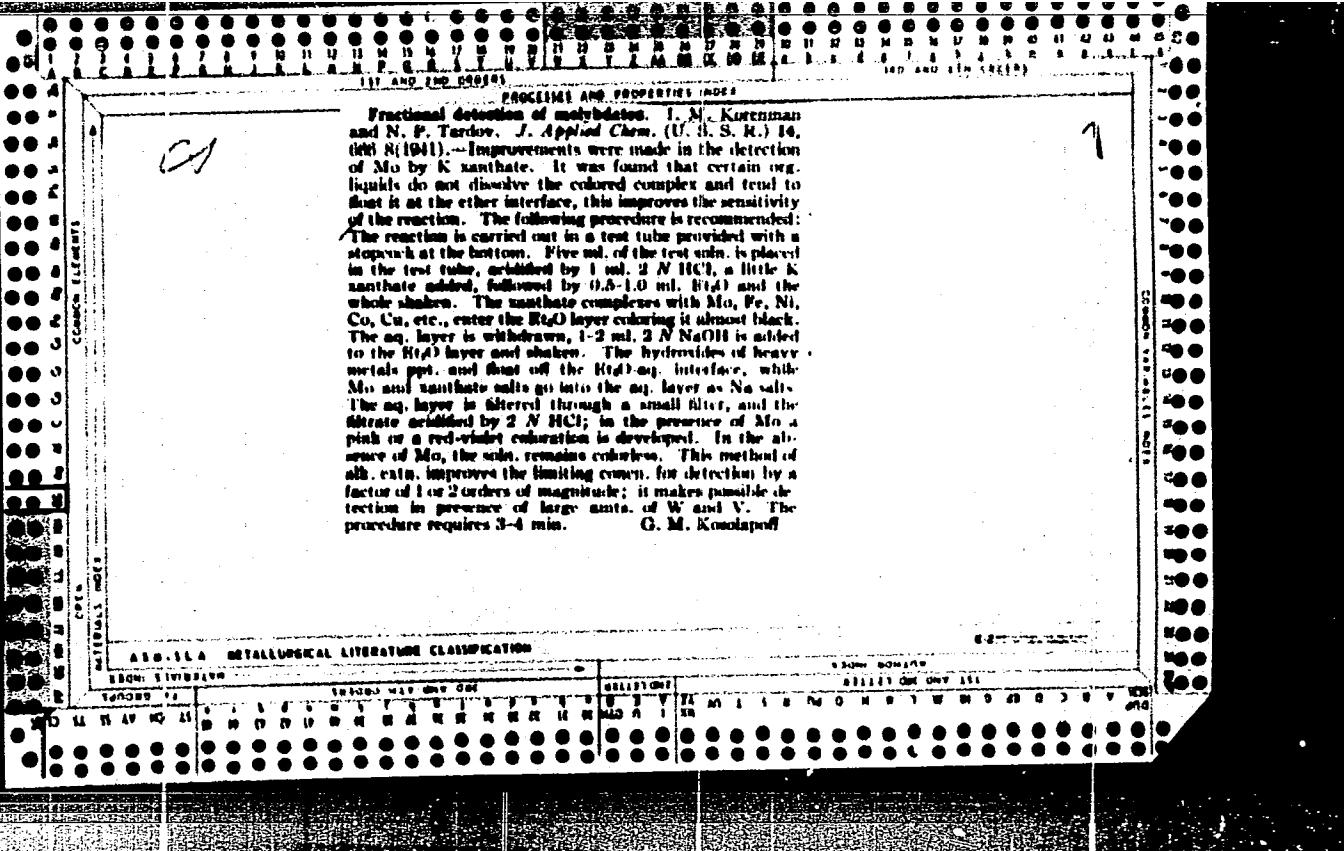
*\*Fractional Detection of Aluminium.* I. M. Katsenelen (Zhur. Prilad. Khimii i. Applied Chem.), 1940, 12, (11), 1722-1729.—[In Russian.] To 2-3 c.c. of the solution to be analysed, add NH<sub>4</sub>Cl solution and 2N-NH<sub>4</sub>OH solution until it acquires a distinct smell of NH<sub>3</sub>. Heat to boiling and filter. Wash the Al(OH)<sub>3</sub> precipitate once or twice with 2N-NH<sub>4</sub>OH solution containing NH<sub>4</sub>Cl. Then put a clean test-tube under the filter funnel and treat the precipitate with conc. NH<sub>4</sub>OH. Mix 2-3 c.c. of the filtrate with an equal quantity of conc. NH<sub>4</sub>Cl solution and add 1-2 drops of aqueous Na alizarin-sulphonate solution. The appearance of a red or rose colour indicates the presence of Al; in the absence of Al a violet colour appears. The time required is about 15 minutes. By this method it is possible to detect 0.5-1.0 mg. Al in the presence of greater quantities of many other ions, e.g. Mg<sup>2+</sup>, Ca<sup>2+</sup>, Sr<sup>2+</sup>, Ba<sup>2+</sup>, Fe<sup>3+</sup>, Cr<sup>3+</sup>, Mn<sup>2+</sup>, Zn<sup>2+</sup>, Co<sup>2+</sup>, Ni<sup>2+</sup>, Hg<sup>2+</sup>, Pb<sup>2+</sup>, Bi<sup>3+</sup>, Cu<sup>2+</sup>, Cd<sup>2+</sup>, As<sup>3+</sup>, Sb<sup>3+</sup>, Sn<sup>2+</sup>, and Ag<sup>+</sup>.—N. B. V.

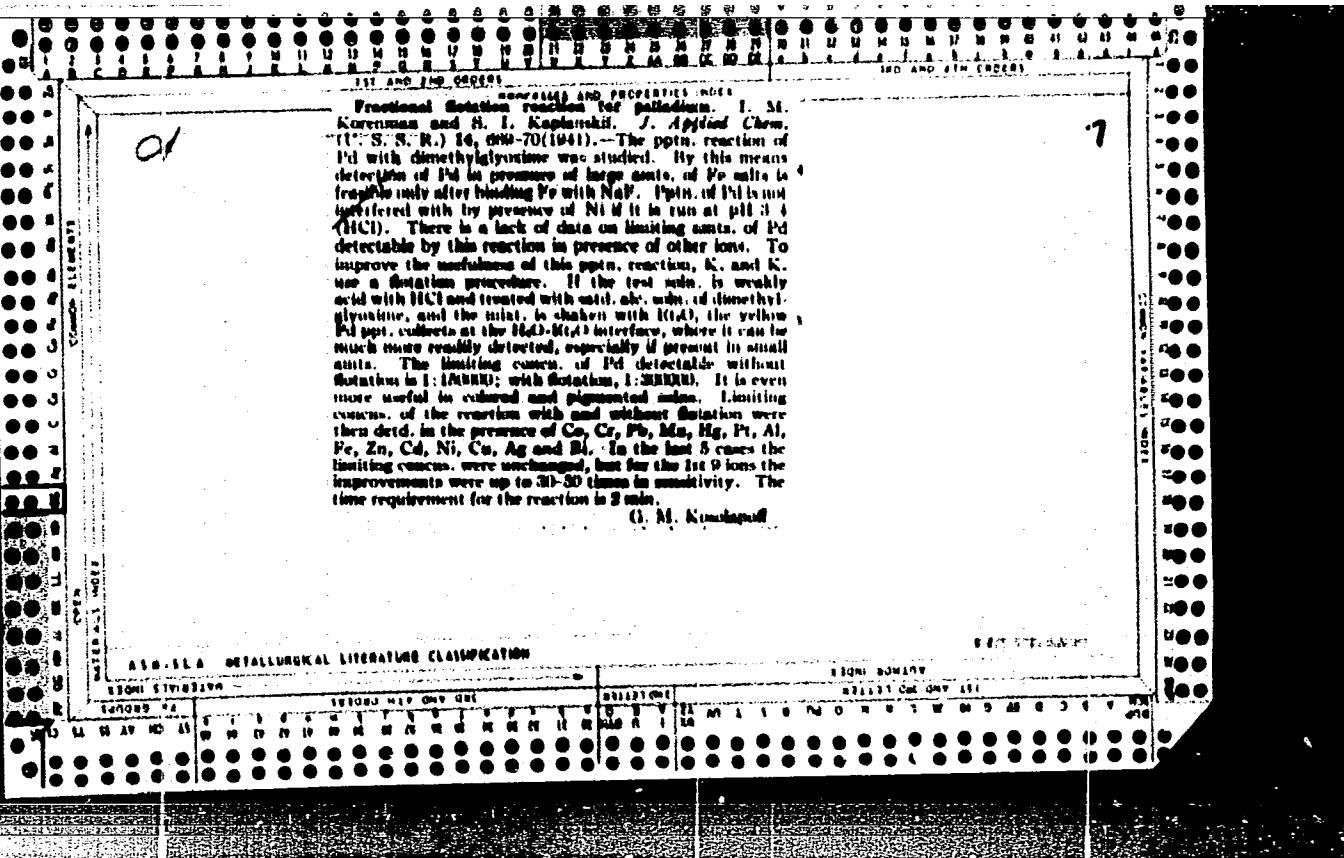
1943

Microchemical reactions of rivanol and acriquoine. I.  
M. Kurnikova and G. A. Kostylev. *Khimika i Promst.* No. 6/7, 25-30 (1941).—Sensitive reactions which are selective enough to distinguish between rivanol (I) and acriquoine (II) show the following limits of sensitivity (dm<sub>3</sub> soln. and amt.)  $\text{KNO}_3$  or  $\text{NaNO}_3$ , I: 1:20,000 or 0.1 γ; II: 1:26,000 or 0.8 γ;  $\text{KNO}_3$  or  $\text{NaN}_3$ , I or II: 1:10,000 or 0.2 γ;  $\text{K}_2\text{Cr}_2\text{O}_7$ , I: 1:12,000 or 0.18 γ (I, test not contributive);  $\text{KCl}$  or  $\text{NaCl}$ , I: 1:6000 or 0.3 γ; II: no reaction. Two fluorescence tests are described, one with concd.  $\text{H}_2\text{SO}_4$  and the other with  $\text{KNO}_3$  soln. in concd.  $\text{H}_2\text{SO}_4$  with characteristic difference between I and II. Drawings of nests are shown.

*Julian P. Smith*





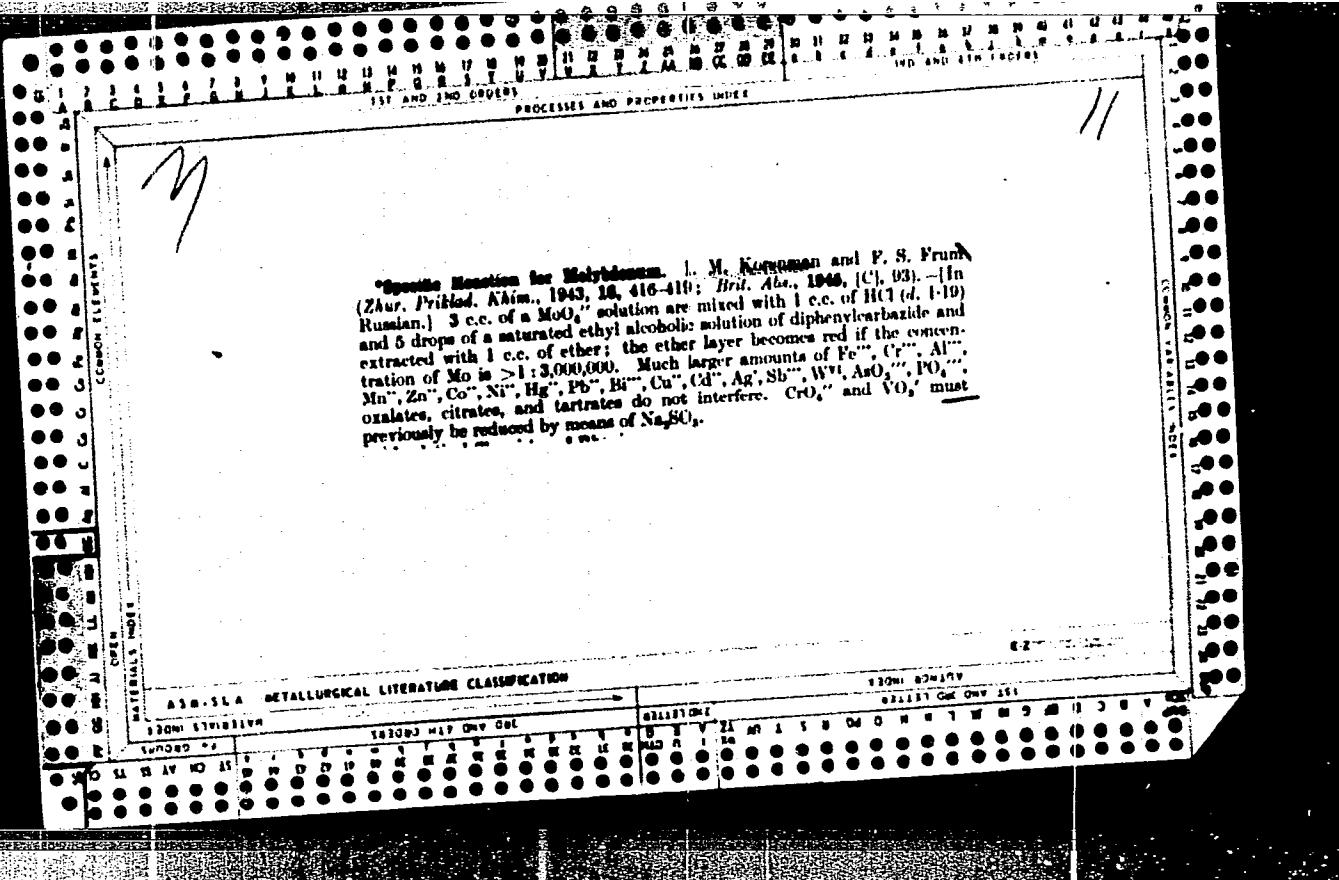


**Microchemical detection of Ag in its difficultly soluble salts.** I. M. Karemman. *J. Applied Chem. (U. S. S. R.)* 16, No. 11/12; 413-18 (1953).—Methods based on solvolytic action of certain Ag salts in coccol.  $\text{AgNO}_3$ , in  $\text{KI}$  or in  $\text{KCN}$  solns., from which larger crystals of Ag salt are obtainable than from  $\text{NaClO}_4$  solns. A drop of soln. of the chloride or a particle of  $\text{AgCl}$  is mixed with a drop of salt,  $\text{AgNO}_3$  soln. and evapd. to dryness; rectangular crystals and rosettes are formed up to 50  $\mu$  in size; 1.5  $\gamma$   $\text{Cl}^-$  or 5  $\gamma$   $\text{Ag}^+$  can be detected. For bromides the reaction is similar; it is sensitive to 2  $\gamma$   $\text{Br}^-$  and 5  $\gamma$   $\text{Ag}^+$ . Iodides and mtd.  $\text{AgNO}_3$  yield needles up to  $100\mu$  in length; sensitive to 3  $\gamma$   $\text{I}^-$  or 6  $\gamma$   $\text{Ag}^+$ .  $\text{CNS}^-$  soln. mixed with a drop of  $\text{AgNO}_3$  and dried, by a drop of water yields needles, rods and X-shaped crystals; sensitive to 1  $\gamma$   $\text{CNS}^-$  or 3  $\gamma$   $\text{AgCNS}$ .

**ANNUAL METALLURGICAL LITERATURE CLASSIFICATION**

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CA

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Microchemical test for tungstates L.M. Kornmann  
(Gorky State Univ.), *J. Russ. Chem. U.S.S.R.* 18,  
571 (1945). Add solid NH<sub>4</sub>Cl to a neutral or weakly  
basic solution; colorless crystals of (NH<sub>4</sub>)<sub>2</sub>WO<sub>4</sub> are precipitated;  
these decompose with a beautiful luster. Dilute  
solutions require a large excess of NH<sub>4</sub>Cl. The reaction  
serves to detect 0.15% W in a drop (1:10,000), and is not  
prevented by MoO<sub>3</sub>, V<sub>2</sub>O<sub>5</sub>, SO<sub>3</sub>, or Cl<sup>-</sup> (0.1%).

## A.B.-SEA METALLURGICAL LITERATURE CLASSIFICATION

1946 EDITION

1946 EDITION

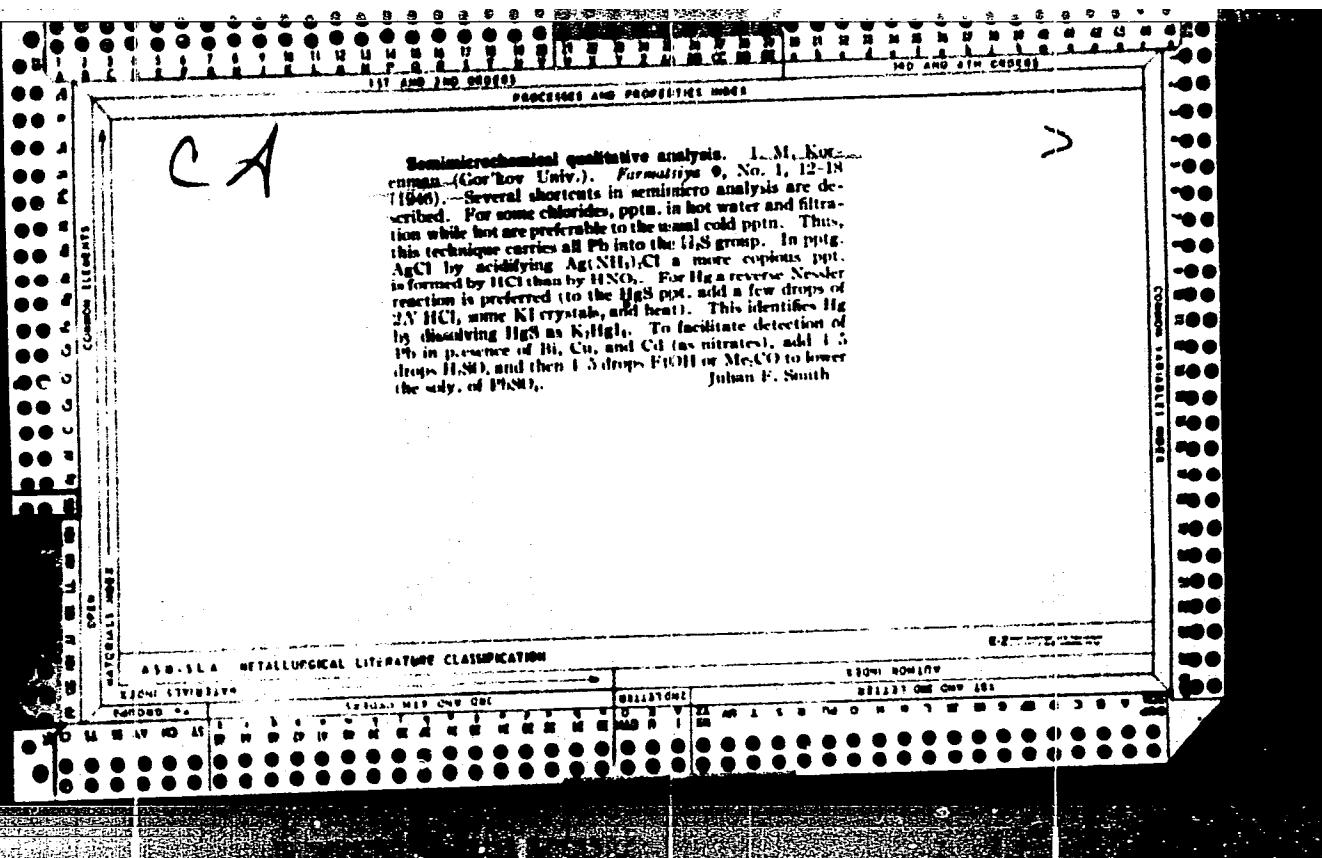
1946 EDITION

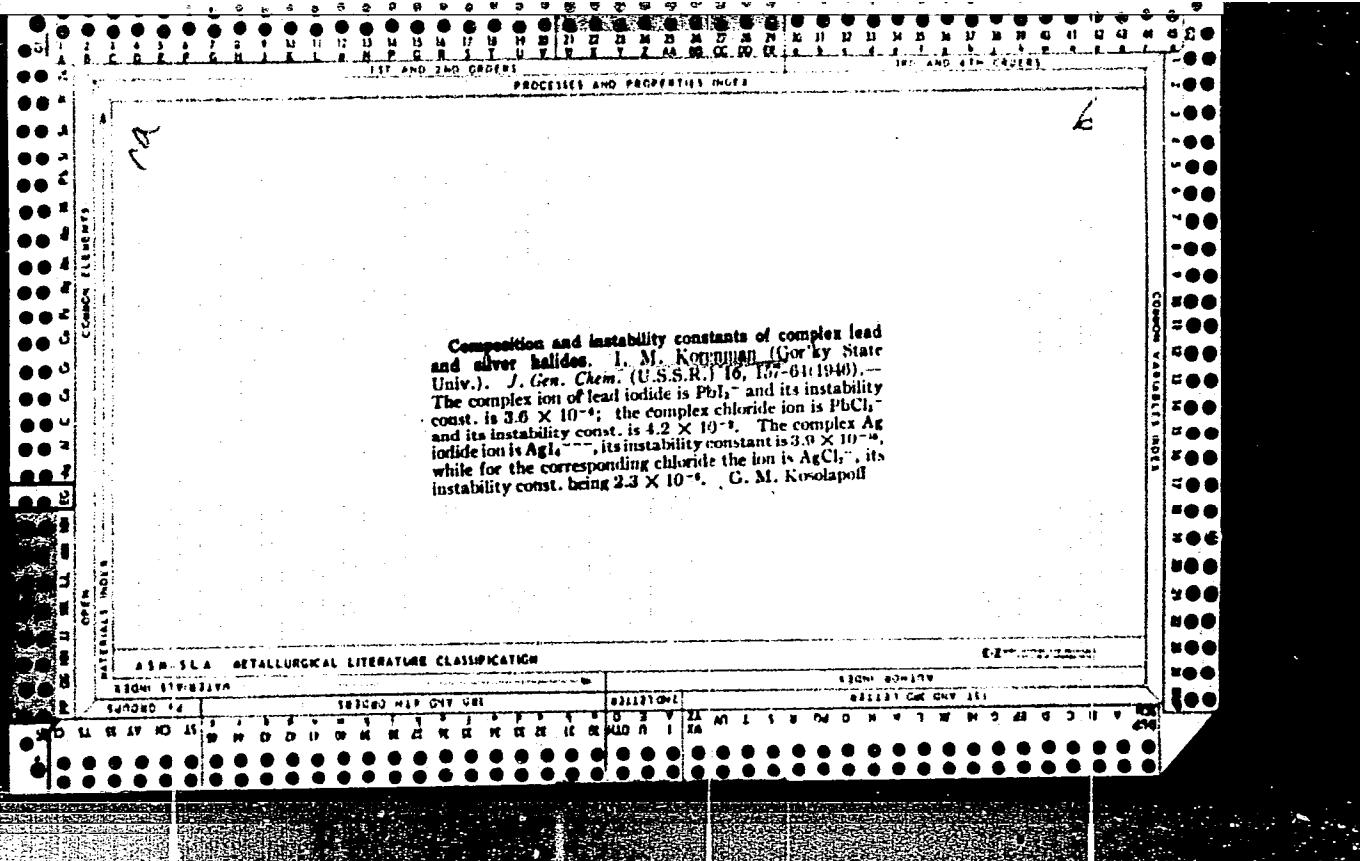
1946 EDITION

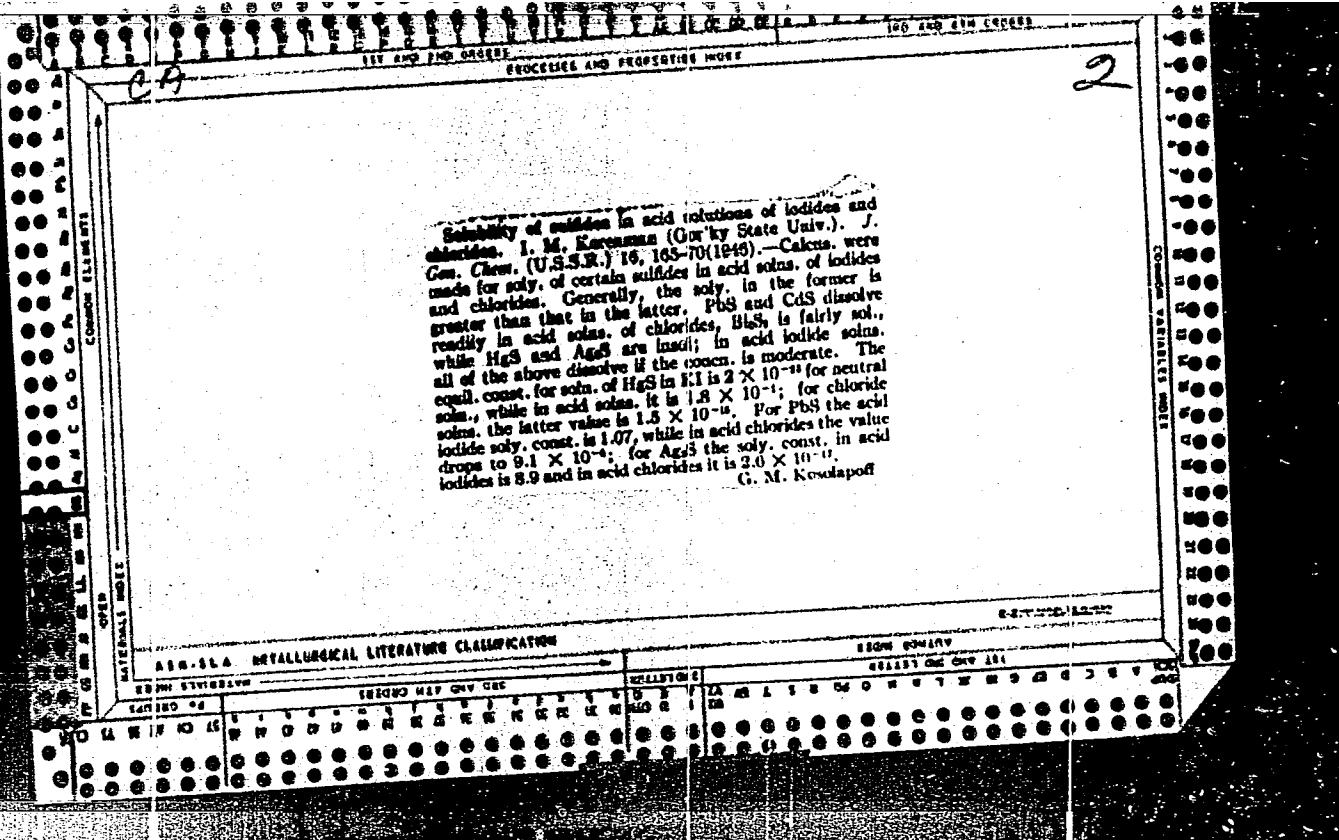
**Theory of organic analytic reagents.** I. M. Korenman, *Zhur. Anal. Khim.*, 1, 64-72 (1946).—The following org. compds. are capable of forming colored and insol. salts with Ni, Fe (ferrous), Pd, and others. These compds. are (1)  $\alpha$ -dioximes, (2) their monothioers, (3) 2-pyridyl ketones, (4)  $\alpha$ -nitroketones, (5)  $\alpha$ -aminoimines, (6) pyrrole- $\alpha$ -alkynes, (7) nitroguanidines, (8) hydroxybenzamidine, (9) benzoyl hydrazine oxime, (10) monoimines of dioxo compds., (11) ethylenediamine, (12) 2,2-bipyridyl; (13) 2-pyridylhydrazine, and their derivs. With most of these compds., the cations form 5-membered internal ring compds. also 2 N and 3 C atoms. The cation is linked with its main and secondary valence through the N atoms. The no. and position of multiple bonds in the ring do not affect the ability of these compds. to react with the inorg. elements. One of the C atoms in the 5-membered ring can be replaced by N and a N atom can be replaced by O. M. Hoseh

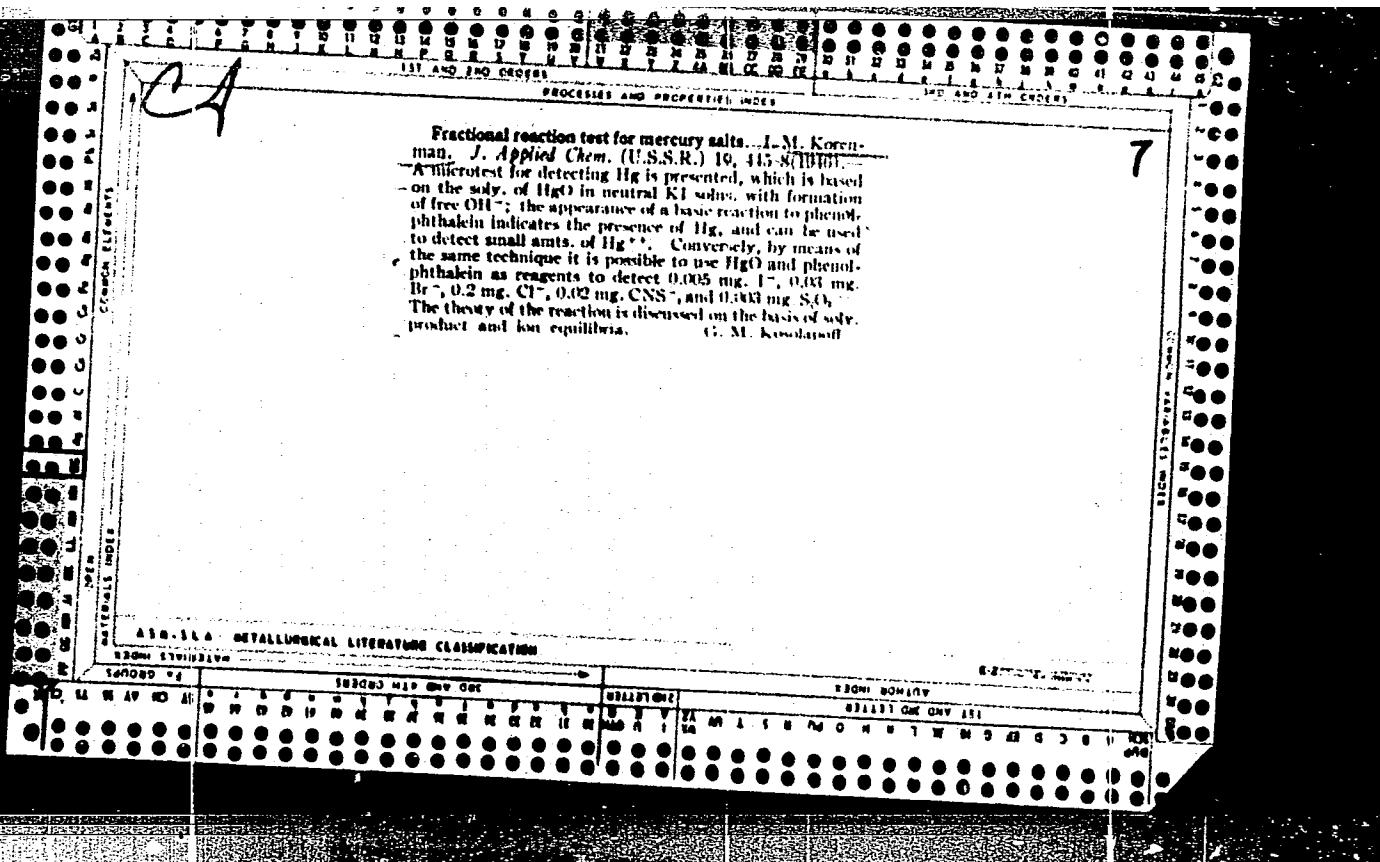
M. Hoseh

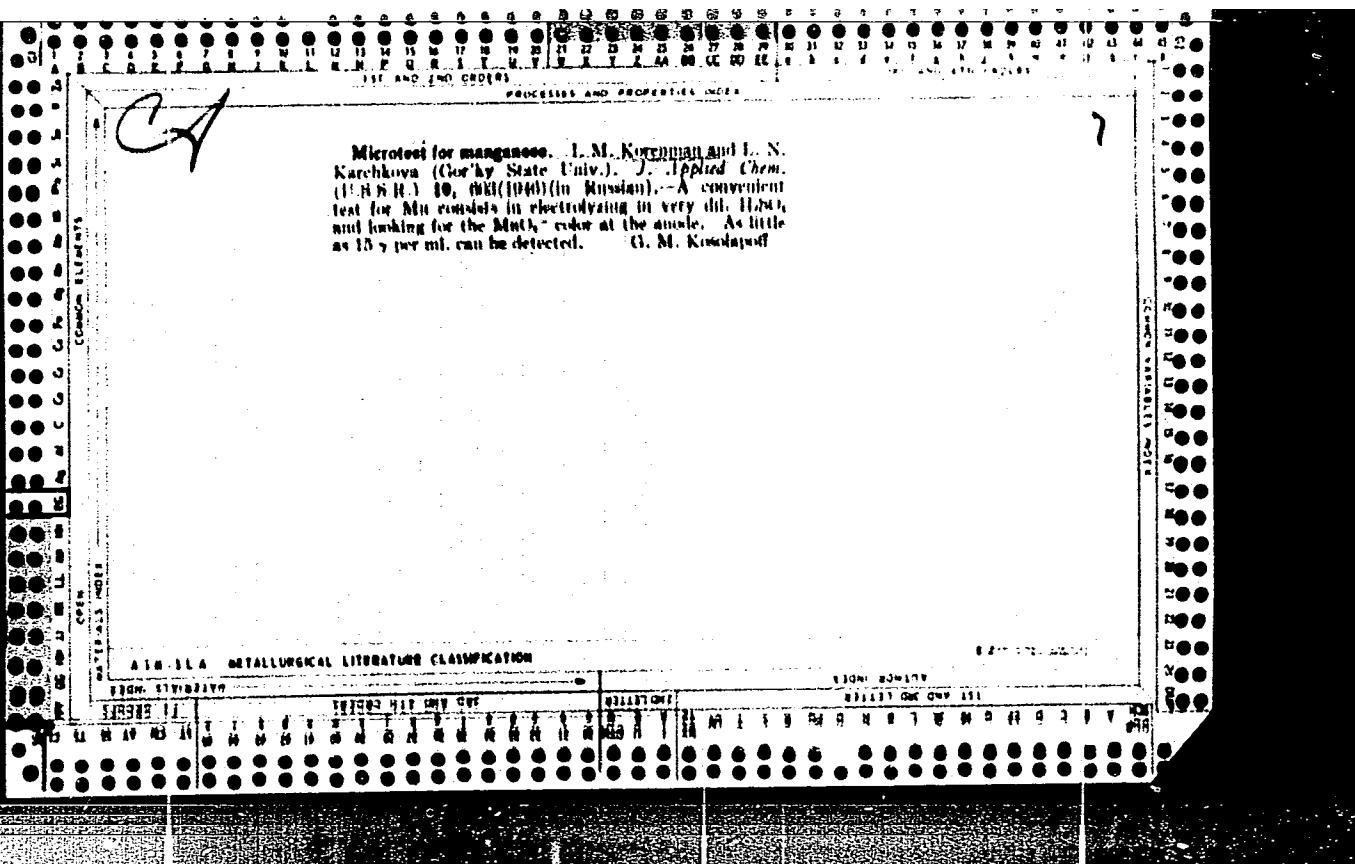
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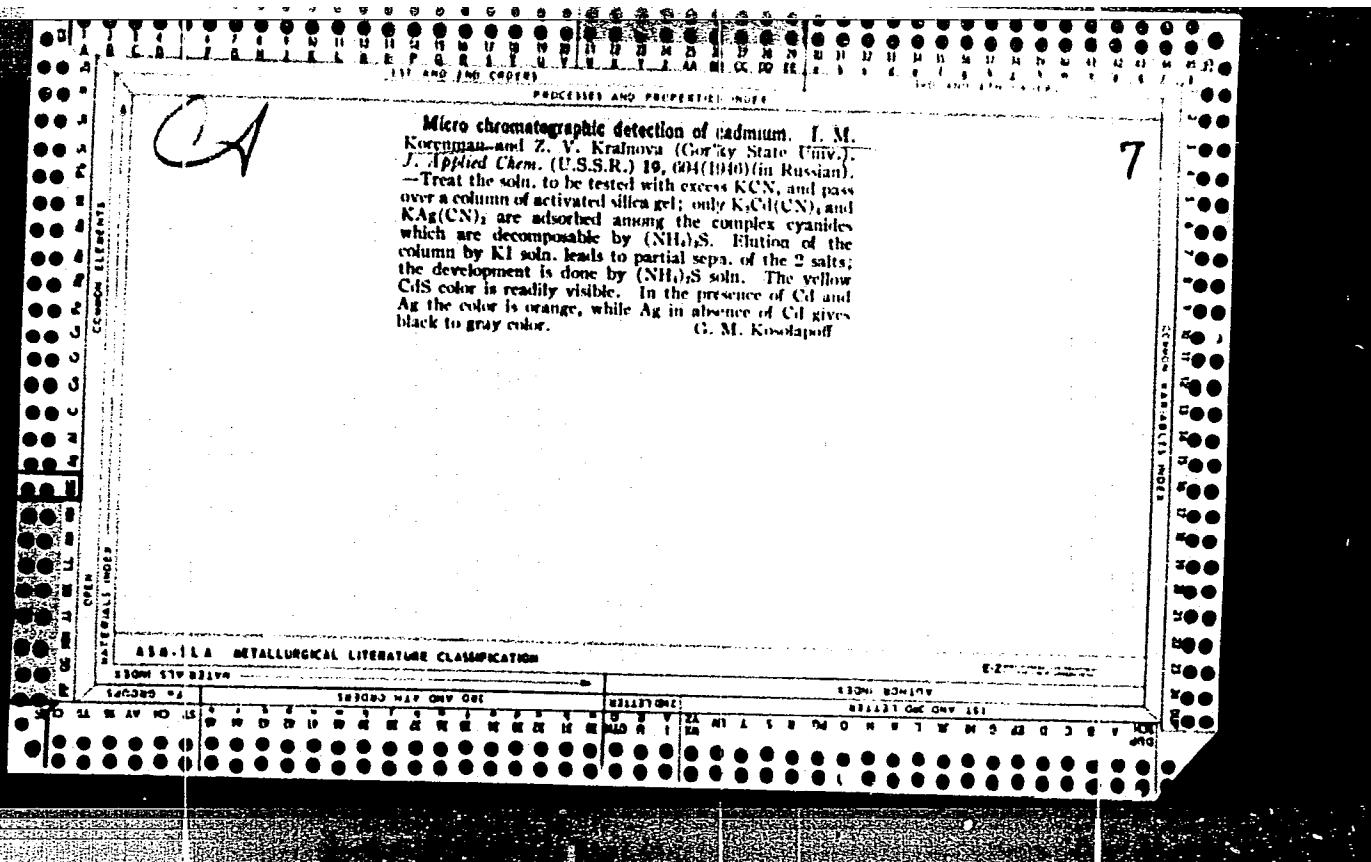












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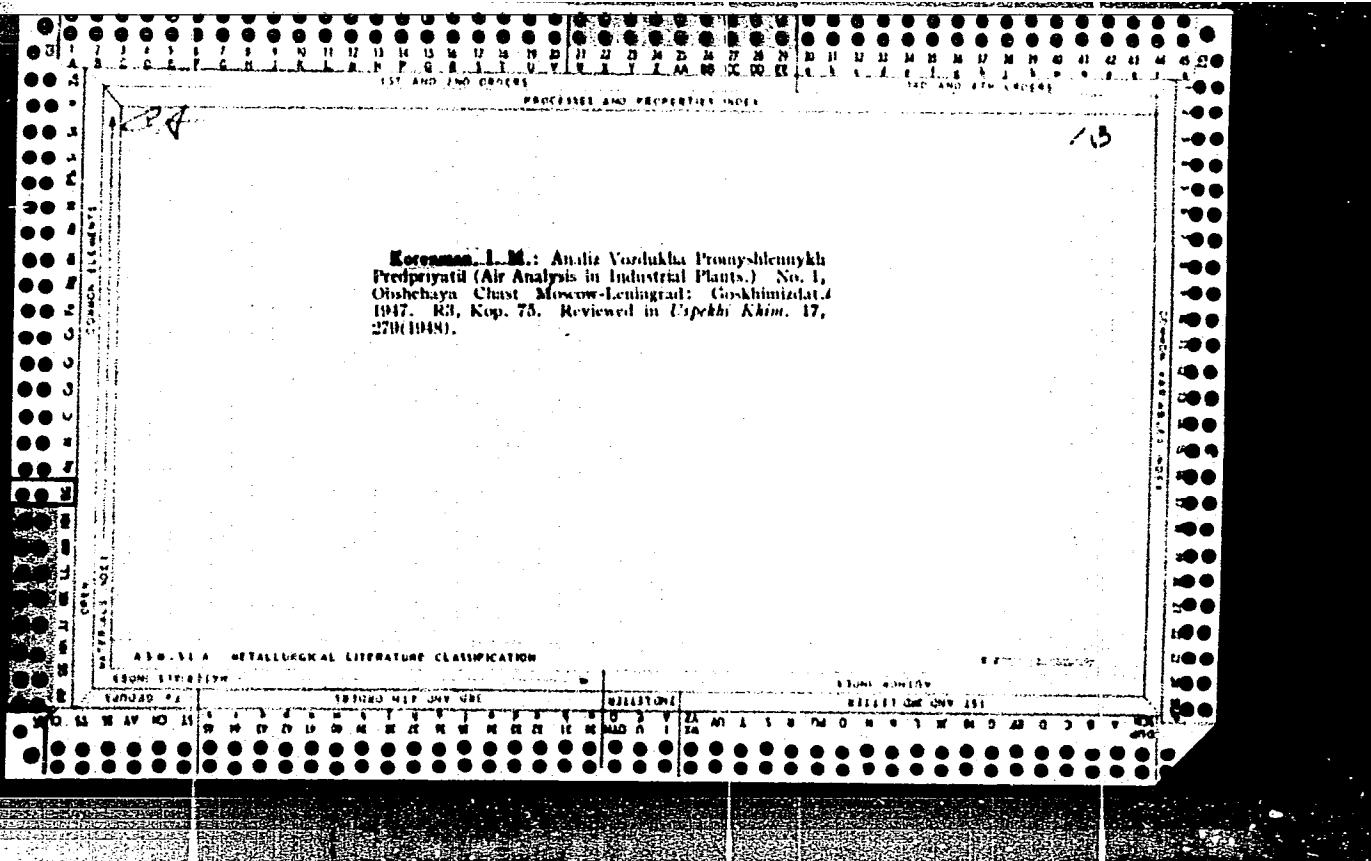
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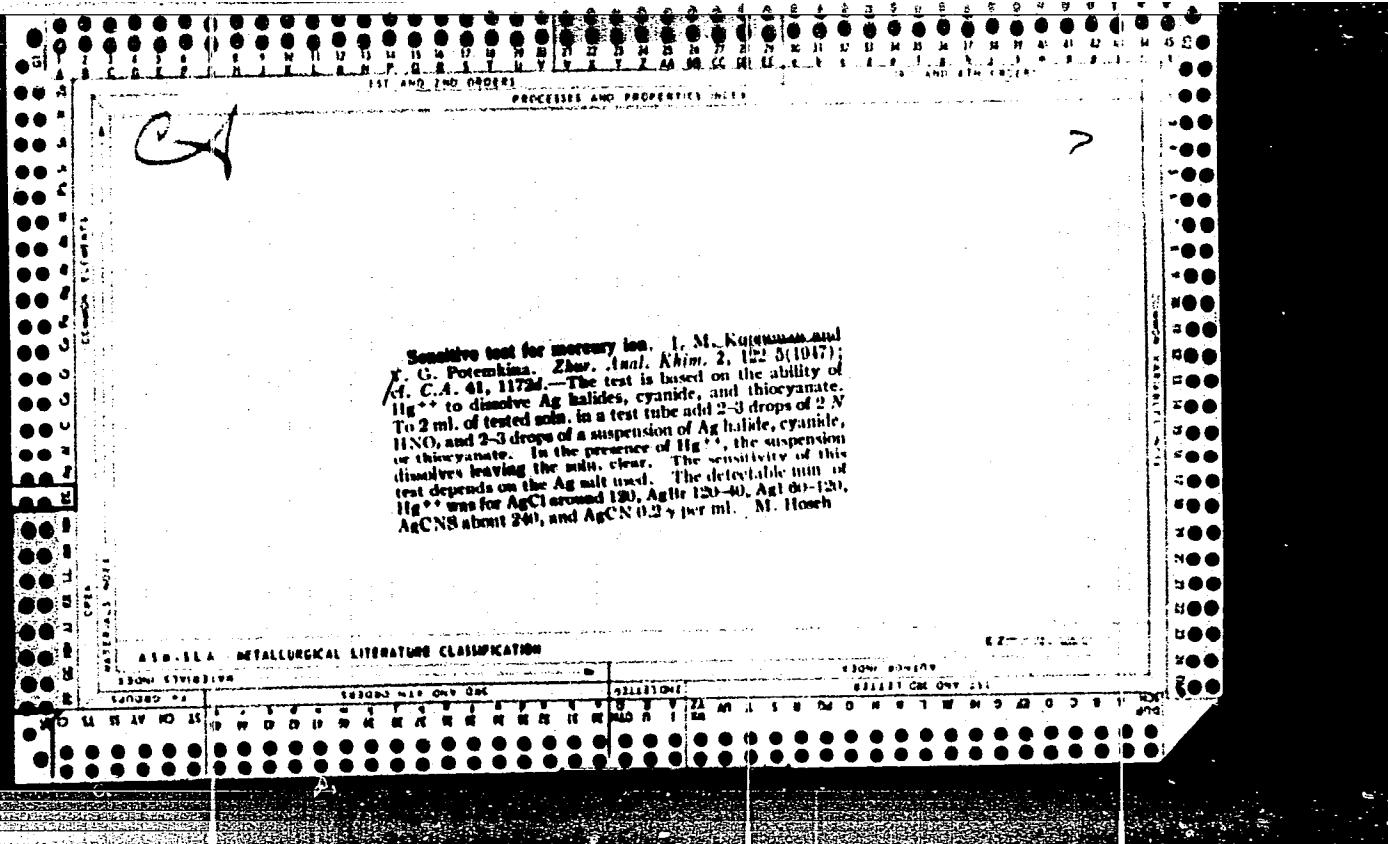
Korenman, I. M. Micro-crystalloscopy; qualitative micro-chemical analysis  
of inorganic substances Moskva, Gos. nauchno-tekh. izd-vo khim. lit-ry, 1947.

320 p. Mic 52-648 Microfilm Q-2

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Theory of organic analytical reagents. II. Organic reagents for basic add. L. M. Klotz, *Zhur. Anal. Khim.* 2, 182-5 (1947); cf. *C.A.* 43, 28416.—In considering a number of org. reagents which upon reacting with  $\text{Hg}_2\text{BO}_3$  develop color or fluorescence, it is concluded that the reaction product is a 6-membered ring closed by B. This explains the behavior of curcumin. By analogy with acetylacetone of which curcumin is a deriv., it could be expected that deriv. of salicylic acid too would give a colored product with B. While salicylic acid itself did not produce such reaction, its derivs. cuint, chromophore did. Among such derivs. is aluminum. Two tests long with aluminum, one having a sensitivity of 1:8000-10,000 and the other 1:100,000, are described. This test is applicable in the presence of tungstic, molybdate, HF, phosphoric, chrome, and other acids. Seven dyes which are derivs. of salicylic acid also gave colors with  $\text{Hg}_2\text{BO}_3$ . These compds. fall into 5 groupings: (1) 1-hydroxyquinoline and its derivs., (2) morin and its analogs, (3) derivs. of 1,8-dihydroxynaphthalene, (4) derivs. of salicylic acid, and (5) derivs. of acetylacetone. These groups form with  $\text{Hg}_2\text{BO}_3$  an internal cyclic complex. M. Hesch

M. Howe

## **APPENDIX I METALLURGICAL LITERATURE CLASSIFICATION**

*—*

C A

Theory of organic reagents. III. Study of the biuret reaction. I. M. Korenman, *Zhur. Anal. Khim.*, **3**, 52-62 (1948); cf. *C.A.*, **43**, 5004c.—The results of the biuret reaction available in the literature are analyzed. Thirteen kinds of compds., all of them aliphatic, give this reaction. The specific groupings of atoms within these compds. responsible for the biuret reaction are, e.g.,  
 $\text{--NHCONCONH}_2$  in biurets,  $-\text{NHC}(\text{:NH})\text{NCONH}_2$  in dicyanodiamidine,  $>\text{NC}(\text{:N})\text{NC}(\text{:NH})\text{NH}_2$  in biguanides,  $>\text{NC}(\text{:N})\text{NH}_2$  in *N*-phenyl-*N'*( $\alpha$ -aminobenzyl)-benzimidine, and  $\text{N}(\text{:CNC}(\text{:NH})\text{NH}_2)$  in dicyanodiamides. These groups have in common the ability to form 6-membered internal complexes of the type  $\text{N}(\text{C}_n\text{N}_m\text{M})_n$  where M is a metal and n an integer. Still other groupings capable of this reaction, e.g.,  $\text{NHC}(\text{:V})\text{C}(\text{:V})\text{CONH}_2$  in maloramides and  $\text{N}(\text{:CCCONH}_2)$  in cyanacetamide and its derivs., can be generalized in the form  $\text{N}(\text{C}_n\text{C}_m\text{N}_l\text{M})_n$ . Thus, the atomic groupings capable of the biuret reaction can be generalized in two types:  $\text{Z}(\text{C}_n\text{X}_m\text{N}_l\text{M})_n$ , of which

there are 12 variations, and  $\text{M}_n\text{Z}(\text{C}_n\text{X}_m\text{N}_l)_n$ , of which there is 1 variation. X is either C or N, and Z is either N or O. The no. and distribution of multiple bonds within the ring is responsible for a given variation but does not affect the ability of the compd. to give the biuret reaction. No is this ability impeded by the removal from the 6-membered ring of an atom not directly connected with the metal atom. Only few of the compds. capable of the biuret reaction have been studied for their analytical value. An analogy is shown between the compds. giving the biuret reaction and the glioxime reagent. M. Hoch

KORENMAN, I. M.

PA 13/49T21

UNSR/Chemistry - Amino Acids  
Chemistry - Reagents, Organic

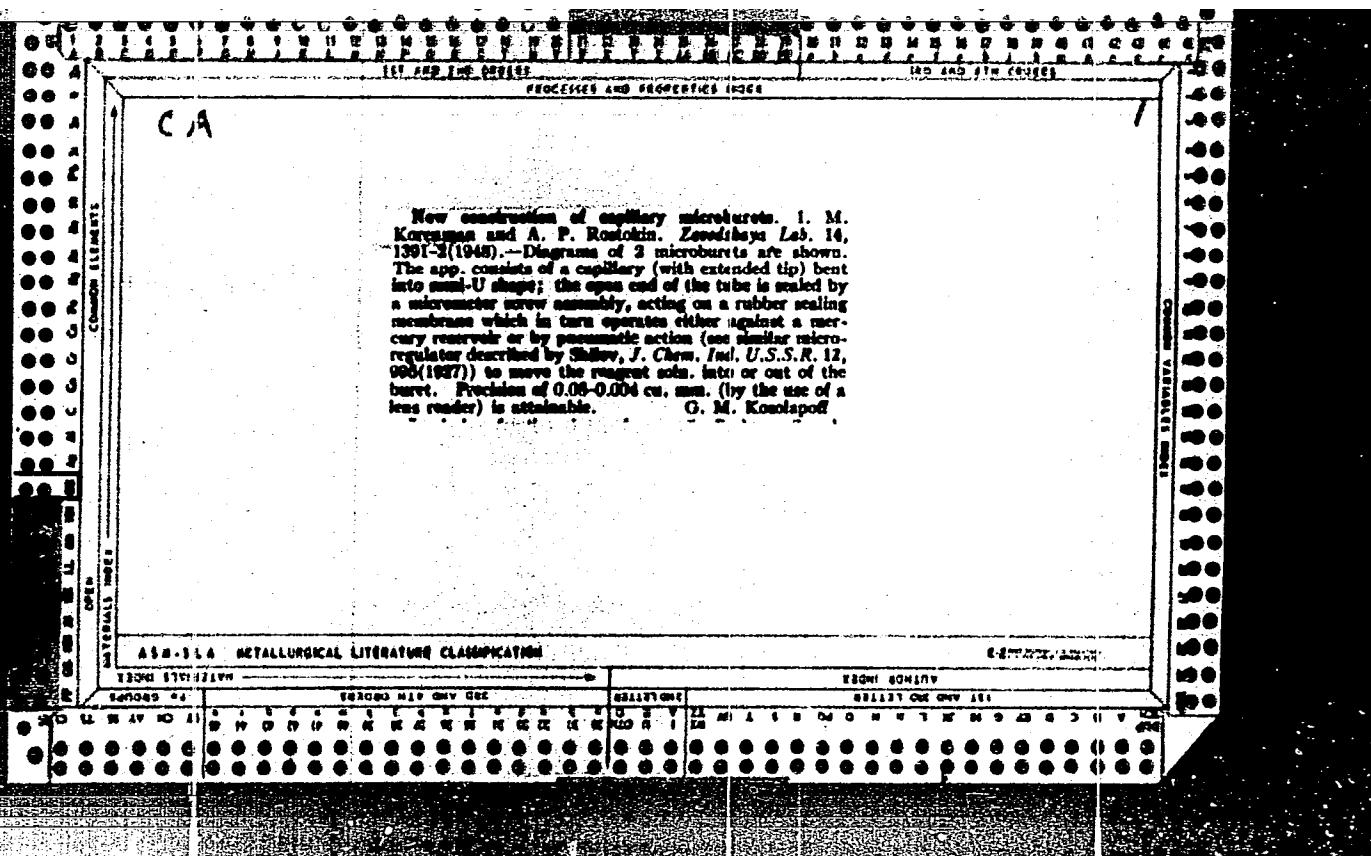
Sep/Oct 48

"Theory of Organic Reagents, IV," I. M. Korenman,  
Gor'kiy State U, 7 3/4 pp

"Zhur Analit Khimii" Vol III, No 5

Discusses theory of amino acids and compounds  
with analogous analytical action. Submitted  
16 Apr 1947.

13/49T21



KORENMAN, I. M.

PA 16/49T23

Chemistry - Benzene, Trinitro  
Chemistry - Benzeno, N-Dinitro

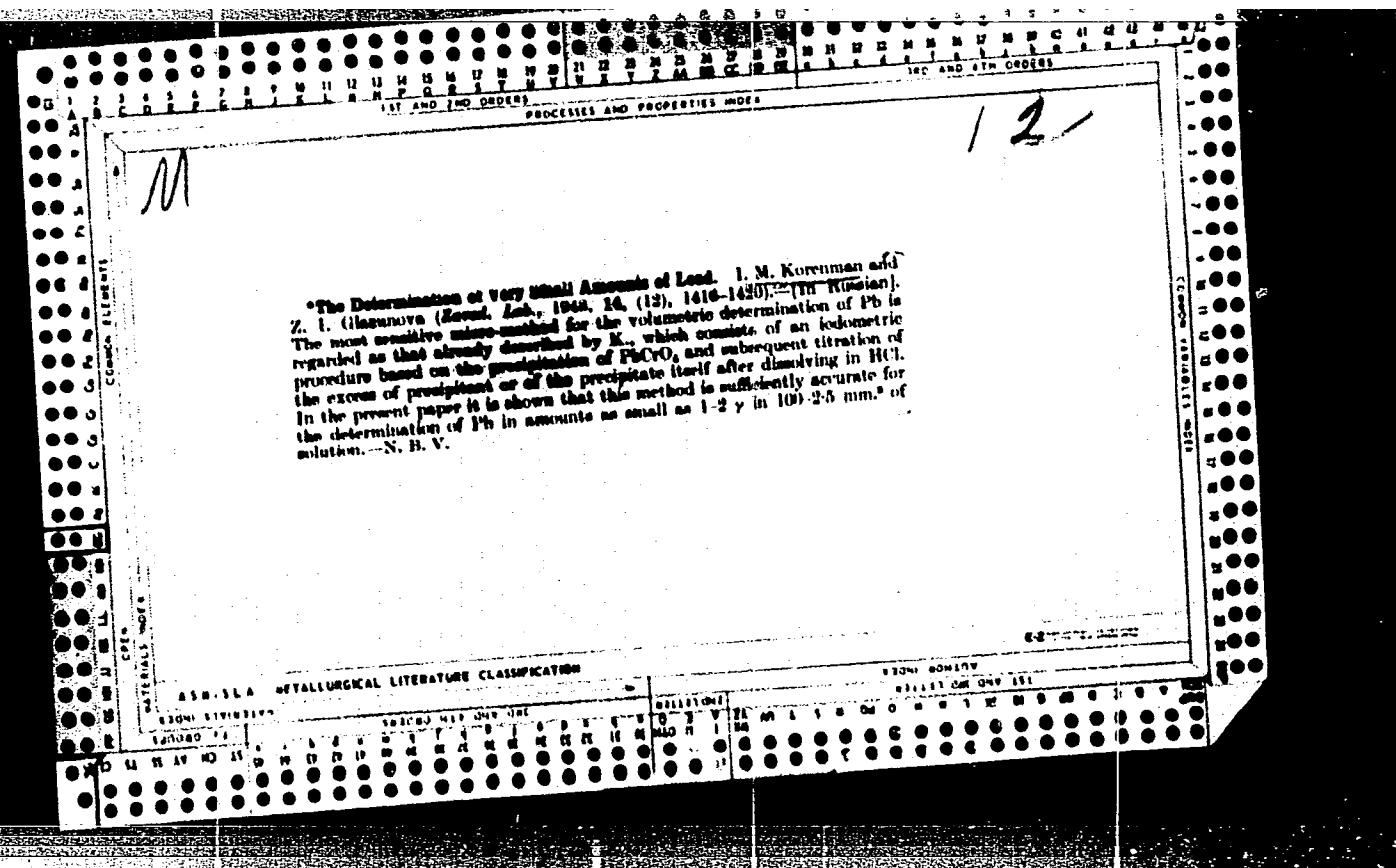
Soy 48

"Spectrophotometric Determination of M-Dinitro-  
benzene and Trinitrotoluene," I. M. Korenman, A. M.  
Fischer, Gor'kiy State U, 2 3/4 pp

"Zavod Lab" Vol XIV, No 9

Describes spectrophotometric methods for quantitative  
determination of metadinitrobenzene and trini-  
trotoluene in acetone solutions using Yanovskiy's  
reaction. Time required is 15 - 20 minutes.

16/49T23



KORENMAN, I. M.

I. M. Korenman, The dissociation constant of  $[CdCl_4]^-$  o.p. 1233.

The value of the dissociation constant of  $[CdCl_4]^-$  is calculated which is  
 $9.2 \times 10^{-3}$ .

Chair of Analytical Chemistry of the  
Gorki State University  
April 28, 1947

SO: Journal of General Chemistry (USSR) 18. (80) No. 7 (1948).

KORENMAN, I. M.

PA 11/49T28

USSR/Chemistry - Hydrogen Ion Concentration, Determination of Chemistry - Analysis, Spectroscopic

Aug 48

"Spectrophotometric Determination of pH by Means of a Compound Indicator," I. M. Korenman, Ye. M. Puchik, Gor'kiy State U, 4 $\frac{1}{2}$  pp

"Zhur Priklad Khimii" Vol XXI, No 8

pH value of a solution can be determined by spectroscopic method, using compound indicator. Accuracy is higher than colorimetric method. Submitted 27 Nov. 47.

11/49T28

KORENMAN, I. M.

Korenman, I. M. - "Timiryazov -- the founder of the micro-analysis of gases", (Report), Soobshch. o nauch. rabotakh chlenov Vsesoyuz. khim. o-va im. Mendeleyeva, 1949, Issue 2, p. 21.

SO: U-4630, 16 Sept. 53, (Letopis 'Zhurnal 'nykh Statey, No. 23, 1949).

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008

Chemistry - Burets, Micro-

"Titration in Small Volumes," I. M. Korenman, Ye. Sh. Gronberg, Inst Chem, Gor'kiy State U, 9 pp.

"Zhur Analit Khimii" Vol IV, No 1

Describes a micro-buret which permits determination of small volumes of solutions with an accuracy up to 0.005-0.025 micron liters. Best results obtained during titration in presence of methyl red. Relative inaccuracy of the determination was in most cases under 1.5-2%. Ten tables give figures on titration of solutions. Submitted 20 May 47.

29/49T17

KORENMAN, I. M.

62/49T100

URB/Physics  
Weighing Techniques

Jul 49

"Ultramicrobalance," I. M. KORENMAN, Ya. N.  
Fertel' Netster, Gor'ky State U, 11 pp

"Zavod Lab" No 7

Notes that limits of microchemical weighing are  
about 3-5 mg. Below this limit, it is  
necessary to use an ultramicrobalance. Des-  
cribes apparatus, calibration methods, and a  
few examples of application. Shows method for  
determining specific gravity of a very small  
amount of liquid, dry residue in 30-40 cu mm or

URB/Physics (Contd)

JUL 49

loss of liquids, and molecular weight of certain  
acids. Calcination process is necessary for some  
our analyses.

62/49T100

M  
S  
*June 1968*

\*Determination of Cobalt from the Volume of Precipitate. I. M. Korytnik and E. M. Puchik (Zavod. Lab., 1948, 14, (2), 134-135).—[In Russian]. The method gives a rapid and sufficiently precise determination of the Co content of Ni salts. The analysis is carried out as follows: 1-2 c.c. of solution to be analyzed is placed in a test-tube, and to it are added 0.25 c.c. of 30% acetic acid and 4 c.c. of a mixture containing 1 part 1*N*-KNO<sub>3</sub> and 2 parts 3*N*-NaNO<sub>3</sub>. For a Co<sup>++</sup> content <0.05 mg./c.c. the precipitate of K<sub>2</sub>Na[Co(NO<sub>3</sub>)<sub>4</sub>] appears rapidly; for a content of 0.01-0.05 mg./c.c. a slight cloudiness appears only after 2-3 hr. Heating and boiling does not hasten precipitation or increase the sensitivity. After precipitation is complete the test-tube is centrifuged for 5 min. at 2000 r.p.m. The height of the column of (yellow) sediment is proportional to the Co content of the solution.  
—T. O. L.

*CH*

Determination of small quantities of calcium. I. M. Korenman and O. H. Ostroumoff. Zavodskaya Lab. 18, 100-8 (1940).  
Treat 60-170 mg of sample in a centrifuge tube with 80 ml. of 2.4 N HCl. To the soln. add 30-40 ml. of 4% Na<sub>2</sub>C<sub>2</sub>O<sub>4</sub> soln., and add 10% NH<sub>4</sub>OH dropwise until the soln. is yellow to added methyl orange. After 2-3 min. heating on the steam bath, and 20 min. standing, centrifuge the soln. 2-3 min., and wash with hot water. Dissolve the ppt. in 20-30 ml. of 2.4 N HCl and repeat with a little 4% Na<sub>2</sub>C<sub>2</sub>O<sub>4</sub> and 10% NH<sub>4</sub>OH as above; after centrifuging and washing, dissolve the ppt. In a little 7 N H<sub>2</sub>SO<sub>4</sub>, heat to 70°, and titrate with 0.1 N KMnO<sub>4</sub>.

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

Универсальный, I. M. Kostaman' and Ya. N.  
Fert'vnikov. Zavodskaya Lab. 18, 785-00(1949).--  
An ultramicrobalance is described which is capable of  
accurate weighings in the 20-800 γ region with 3-5%  
accuracy. The principle is the usual quartz or steel fiber  
measured horizontally and observed by a telescope. The  
use in weighings, density determinations, and analytical procedures  
is described.  
G. M. Kosolapoff

6A  
7

**Microcolorimetric determination of nitrates, sulfites, and furfural.** I. M. Korenman, F. S. Prum, and A. A. Rusekikh (Ind. Hyg. Inst., Gorki, U.S.S.R.). *Zarodskaya Lab.* 16, 3-7(1959).—The use of micro-test tubes and micro-pipets permits the detn. of as little as 0.01 γ N oxides (with sulfamic acid and 4-naphthylamine reaction in the presence of AcOH), 0.1 γ of SO<sub>3</sub> (with fuchsin-formaldehyde) and 0.010 γ of furfural (with PhNH<sub>2</sub> in 80% AcOH).  
G. M. Kosolapoff

KORENMAN, I. M.

166T7

USSR/Chemistry - Laboratory Equipment Jul 50

"Torsion Ultramicrobalance," I. M. Korenman, Ya. N. Fertel'meyster, A. P. Rostokin

"Zavod Lab" Vol XVI, No 7, pp 800-806

Describes new experimental model of ultramicrobalance with quartz filament. Minimum weight which could be determined with satisfactory accuracy was approximately 5g. At weight of about 1g error in weighing amounted to 10-15%.

166T7

CA

2

Dependence of the precipitation of hydroxides on the pH of  
the solution. I. M. Korenman (Gor'kovskii State Univ.),  
*Zhur. Obshchey Khim.* (J. Gen. Chem.) 21, 10-18 (1951).—  
Theoretical. Values of solv. products calcd. from pH of  
initial pptn. agree within a factor of  $10^{1-10}$  with exptl.  
values. Arik J. Miller

KORENMAN, I. M.

"The estimation of the solubility of hydroxides." (p. 1961)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1951, Vol 21, No 11.

KORENMAN, I. M.

## USSR/Chemistry - Nitrates

Jan/Feb 52

"Microcrystalloscopic Reactions for Nitrate and Nitrites," I. M. Korenman, A. A. Belyakov, Gor'kiy Inst. of Labor Hygiene

"Zhur Analit Khim" Vol VII, No 1, pp 52-55

A satd. aqueous soln of 1,4-aminophenyl mercuri-acetate was used as reagent. With aq solns of nitrates, it forms a characteristic ppt  $H_2NC_6H_4HgNO_3$ . The reagent can also be used for detecting nitrites, after the oxides given off from the acid soln have been oxidized to  $NO_3^-$  in a gas chamber. Interfering

209T9

## USSR/Chemistry - Nitrates (Contd)

Jan/Feb 52

Ions, such as  $Cl^-$ ,  $Br^-$ ,  $I^-$ ,  $CN^-$ ,  $CNS^-$ ,  $S^-$ ,  $SO_3^{2-}$ ,  $SO_4^{2-}$ , are eliminated by silver or lead acetate.  $NO_2^2$  ions are masked by the addn of ortho- or meta-nitroaniline. The sensitivity is  $0.3 \mu g NO_3^-$ .

KORENMAN, I. M.

## USSR/Chemistry - Boron Compounds

Mar/Apr 52

"A New Group of Reagents for Boric Acid," I. M. Korenman, F. P. Sheyanova, Gor'kiy State U

"Zhur Analit Khim" Vol VII, No 2, pp 128-130

Reagents for  $H_3BO_3$  may be org compds which form 5-membered inner complex cycles with boron. This was the 1st exptl indication that removal of one carbon atom from a 6-membered cycle does not materially change the analytical properties of the compd. Some azo dyes, and hematoxylin (Pyrocateechol derivs) are capable of entering into colored compds producing sufficiently sensitive reactions with boric acid.

209T11

209T9

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1

KAREN MICHENER

Chemical Abst.  
Vol. 1 No. 3  
July 1954

*New group of reagents for boron  
and L-K synthesis*

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1"

KORENMAN, L. M.

✓ "Stil'bazo" as reagent for aluminum. I. M. Korenman,  
E. S. Prum, and E. K. Karzhenkin. Uchenye Zapiski  
Ural'skogo Instituta, 1953, No. 3, 131-3; Referat Zhur., Khim.  
1955, No. 617.—Colorimetric detn. of Al with stil'bazo is  
precise to 0.1 ml. soln. with a max. error of 11% and an ave.  
error of approx. 4%. In 1 ml. soln. the limit of sensitivity  
is 0.06 γ/ul. Al and in 5-10 ml. soln. the sensitivity is  
greater. The presence of 200-300 γ Fe<sup>+++</sup>/ml. (assuming  
preliminary reduction with ascorbic acid), < 0.01 mg. Cu<sup>++</sup>/  
ml., 0.1 mg. Zn/ml., 1 mg. Co<sup>++</sup>/ml., 1 mg. Ni/ml., and 3  
mg. Cr<sup>++</sup>/ml. did not interfere. At 0.5-5 γ in 10 ml. of  
soln. the optical d. of the soln. did not change for 30-40 min.  
after addn. of a pH 5.4 buffer soln. and 0.01% reagent soln.  
M. Hoshch

PM 8/1

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1

Korenman, E. M.

Analytical Abst.  
No. 2

Analysis

277. Microscopic reactions for cyanide  
M. Korenman

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1"

KORENMAN, L. N.

USSR .

Classification of chemical and analytical methods. L. M.  
Korenman. Uchebnoye Zapiski Gor'kov. Gosudarstv. Univ.  
1953. No. 21, 117-18; Refeat. Zhar., Khim. 1954, No.  
23345. Macro-, micro-, and ultramicro-chem. methods  
are considered. Each method operates with a mass or vol.  
1000 times smaller than the preceding one. In-between  
methods differ from the neighboring one by 10-times, e.g.,  
the semimicromethod uses masses and vols. 10-times  
smaller than the micromethod and 10-times larger than the  
micromethod. In the macromethod the min. vol. for  
qual. analysis is 1 ml., the detectable min. is 0.01 mg.; in  
quant. analysis the detectable min. is 0.01 g. and the min.  
vol. for titration is 10 ml. M. Hesch

KORENMAN, I.M.

USSR

✓ 953. Spectrophotometric determination of aniline and some aromatic amino-acids. I. M. Korenman and P. A. Ganichev (Uch. Zap. Gorkovskogo Univ., 1953, [24], 119-122; Referativnyi Zh. Khim., 1954, Abstr. No. 20,341).—To 25 ml of an aqueous soln.

of aniline (4 to 100 µg per ml), add 1 ml of N HCl, 5 ml of a 2 per cent. soln. of NaNO<sub>2</sub>, 3 ml of a 2 per cent. soln. of NaHCO<sub>3</sub>, and 4 ml of a 1 per cent. soln. of phenol; heat to 50° C for 5 min and cool. After 10 min., measure the extinction at 470 mµ. The mean error is ≈ 6 per cent. Naphthoic acid (max. 490 mµ), sulfanilic acid (max. 490 mµ) and their soluble salts can be determined in the same way. E. HAYES

(RH) left

KORENMAN, I.M.

USSR

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008

✓ 954. Spectrophotometric determination of aniline by means of the reaction with H-acid. I. M. Korenman and P. A. Ganichev (Uch. Zap. Gorkovskogo Univ., 1953, [24], 123-125; Referativnyi Zh. Khim., 1954, Abstr. No. 20,342).—To 25 ml of aniline soln. (2 to 80 µg per ml), add 1 ml of 1 N HCl and 8 ml of a 2 per cent. soln. of NaNO<sub>2</sub>; shake and cool in ice for 30 min., shaking at 10-min. intervals. Add 8 ml of a 2 per cent. soln. of NaHCO<sub>3</sub>, shake and add 0.2 ml of a 0.5 per cent. soln. of H-acid (8-amino-1-naphthol-3,6-disulfonic acid). Make up to 60 ml with water, set aside for 40 min., and measure the extinction at 600 mµ. Although the extinction does not obey Beer's law, results are satisfactory. The mean error is ≈ 4 per cent. E. HAYES

(RH) left

KORENMAN, E. M.

Composition of product of reaction between mercury and  
alkalis. M. Koenigsmann and A. S. V. Archibald.

155. *Zhu, Ahm.* 1954. No. 102.  
DENTINE AS  
A PROSTHODONTIC MATERIAL  
IN THE RESTORATION OF  
CARIES-DEPLETED TEETH  
IN CHILDREN. *Acta Odontologica Scandinavica*  
16: 145-152. From original 1954.  
In English. Includes abstract in Chinese.  
Reprinted from *Journal of Prosthetic Dentistry*,  
1956, 12, 100-104. Copyright 1956 by  
The American Dental Association.

of 1 with  $\text{Hg}^{+}$  was approximately 8.5% lower than the 15% suggested for the la- $\text{Hg}^{+}$  form. The 15%

**APPROVED FOR RELEASE: 06/14/2000**

CIA-RDP86-00513R000824620008-1"

KORENMAN, I. M.

V S R

Important problems of development of theory and practice  
of use of organic reagents in inorganic analysis. V. I. Ch.  
Korenman, I. M., Korenman, and L. M. Kulberg. Trudy  
Komitee Anal. Khim., Akad. Nauk SSSR, Gidr. Khim.  
Nauk 5(8), 3-12(1954). — A review with 10 references.  
Harilla Mayerle

W MET  
②KORENMAN, I. M.  
USSR/Chemistry

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R00082462000

Card : 1/1

Authors : Korenman, I. M., and Levina, E. I.

Title : Specific grouping of atoms in reagents used for the determination of tungstates

Periodical : Zhur. Anal. Khim., 9, Ed. 3, 170 - 174, May-June 1954

Abstract : The specific atom grouping in organic reagents, used for the determination of tungstates, was determined experimentally. The participation of carbon atoms, included in the composition of aliphatic and cyclic compounds, in the formation of the specific atom grouping, is explained. The chemism of reaction of various organic compounds, containing a specific atom grouping, is described. Twenty three USSR references (since 1905). Tables.

Institution : State University, Gorky

Submitted : May 10, 1953

USSR:

✓ Specific grouping of atoms in reagents for tungstates.  
M. Kerevitch and E. I. Levin. *J. Anal. Chem. U.S.S.R.*  
(~~Chemical Abstracts~~, translation). See C-1-48, p. 50.  
H. L. H.

KORENMAN, I. M.

USSR/Chemistry - Analytical

Card 1/1 : Pub. 145 - 7/14

Author(s) : Korenman, I. M., and Belyakov, A. A.

Title : Color reactions of certain mercurated arylamines with nitrates

Periodical : Zhur. anal. khim. 9/4, 220-223, Jul-Aug 1954

Abstract : The problems connected with the study of reactions between mercurated arylamines and nitrates and the possibilities of using mercuri-organic compounds and their synthesis for analytical determination of nitrites and certain secondary and tertiary arylamines were investigated. It was found that the mercurization of secondary and tertiary arylamines increases the sensitivity of colorimetric reactions with nitrites by 2.5 - 16 times. Twelve references: 11-USSR and 1-USA (1927-1952). Tables; graphs.

Institution : Institute of Labor Hygiene, Gorkiy

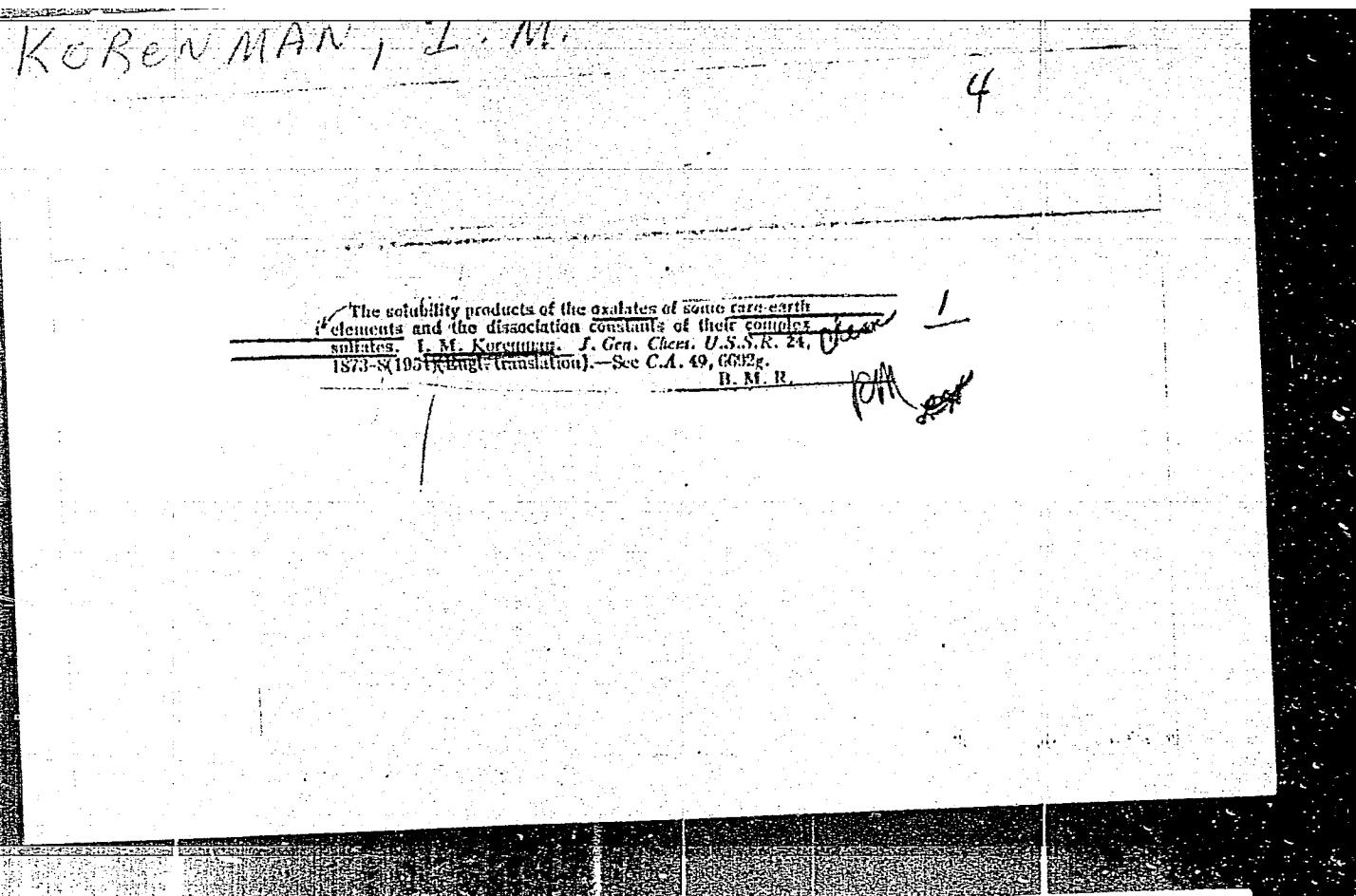
Submitted : December 3, 1952

USSR.

[Color reactions of some unsaturated arylidene compounds with  
nitrite. I. M. Kurenko and A. A. Beljakov. J. Russ.  
Chem. U.S.S.R., p. 645 (1947). (translated from  
Sov. Khim., 1947, No. 10, p. 1954.)]

Institution : None

Submitted : No date



KORENMAN, I. M.

USSR

K. T. Wallack  
The solubility product of the oxalates of some rare earth  
elements and the dissociation constants of their complex  
sulfates. I. M. Korenman (State Univ., Gorki). Zhar.  
Goschchet Khim. 24, 1916-18 (1954). The solv. products at  
20° for the oxalates are: for La  $1.07 \times 10^{-10}$  in 0.02N  
HCl; for Ce  $1.10 \times 10^{-10}$  in 0.1N HCl; for Pr  $1.3 \times 10^{-10}$   
in 0.02N HCl. The salts are more sol. in  $H_2SO_4$  than in  
HCl because of complex formation. The increased solv.  
permits calcn. of the dissoci. const. The values are: for  
 $LaSO_4$  ion  $3.8 \times 10^{-4}$ ;  $CeSO_4$  ion  $1.2 \times 10^{-4}$ ;  $PrSO_4$  ion  
 $4.0 \times 10^{-4}$ ;  $NdSO_4$  ion  $1.2 \times 10^{-4}$ . H. M. Leicester

KORENMAN, I. M. professor: VASKEVICH, D. N. redaktor: DUBOVKINA, N. A.  
APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R00082462000  
technicheskiy redaktor.

[Microcrystalloscopy] Mikrokristalloskopiia. Moskva, Gos. nauchno-  
tekhn. izd-vo khimicheskoi lit-ry, 1955. 431 p. (MLRA 8:10)

1. Gor'kovskiy gosudarstvennyy universitet (for Korenman).  
(Crystallography)

Korenman, I. M.

✓ Composition of some difficultly soluble nitrocobaltates and  
microdetermination of potassium. I. M. Kerenman, F. R.  
Sheyanova, and Z. I. Chirunova. Primenenie selenykh  
slonov v anal. Khim., Akad. Nauk S.S.R., Inst. Geokhim.  
i Anal. Khim., 1955, 29-30.—The compn. of K, Cs, Rb,  
and Ti cobaltinitrites, as affected by the concn. of these  
cations, time of contact, and acidity, was studied by using  
 $\text{Co}^{2+}$ . The cobaltinitrite was used as Na, Ag, or Pb com-  
plex. As the concn. of K, Cs, and Rb in soln. decreased,  
their relative content in the ppt. also decreased. Only the  
compn. of  $\text{KAgCo}(\text{NO}_3)_4$  remained fairly const. The  
compn. of  $\text{TiCo}(\text{NO}_3)_4$  ppt. remained const. Ppts. of K, Cs,  
and Rb remained unchanged regardless of the duration of  
their contact with the mother liquor. The Ti ppt. changed  
with time. As the concn. of  $\text{AcO}^-$  in soln. increased the  
compn. of K, Pb cobaltinitrite approached  $\text{KPbCo}(\text{NO}_3)_4$ .  
Micromethods for detg. 0.5-0.1 mg. K as  $\text{KNaCo}(\text{NO}_3)_4$   
and 0.1-0.01 mg. K as  $\text{KAgCo}(\text{NO}_3)_4$  are outlined.  
M. Hoseni

KORENMAN, I. M.

~~KORENMAN, I.M.; LEBEDEV, O.L.~~

Coprecipitation of cesium with tetramethylammonium dipicrylaminato.  
Soob.o nauch.rab.chl.VKHO no.2:42-45 '55. (MIRA 10:10)  
(Precipitation (Chemistry)) (Cesium) (Amines)

KORENMAN, I.M.

Work of the Russian chemist, F.V. Vil'm, on the microchemistry  
of platinum metals. Trudy Inst.ist.est.i tekhn. vol.6:205-208 '55.  
(Platinum group) (Vil'm, Fedor Vasil'evich, 1845-1893)

KORENMAN, I.M.

Coprecipitation of cesium with potassium picrate.  
Korenman, P. A., Ganichev, and V. V. Gorskoy.  
*Zhur. Khim.* 10, 327-30 (1955).—Coppin. was studied with  
radioactive Cs<sup>137</sup>. In series of expts., solns. contg. 2000 γ  
K and 20 γ Cs were pptd. with an alc. soln. of picric acid.  
As wash soln. 2cc BaO<sub>2</sub> was used. At 0° the solv. of the  
ppt. was very small; above 85° no ppt. formed. Subse-  
quent expts. were carried out at 16°. The time of keeping  
the ppt. under the mother liquor had no significant effect.  
Protective colloids (gelatin, agar-agar, and starch) reduced  
coppin. but by not more than 1%. The addn. of more Cs  
after pptn. did not affect adsorption, thus indicating iso-  
morphic coppin. Varying the amt. of Cs from 1:80 to  
1:400 had no effect on coppin. Varying the amt. of K did  
change materially the amt. of Cs/mg. of ppt. M. Henek.

(2)

*Korenman, L.M.* 5

Radiometric determination of potassium. L. M. Korenman and E. I. Zoria (State Univ., Vertebr.) measured K-<sup>40</sup> activity by means of radiometry in dried and unpressed. A brass cylinder was used as a sample holder which has a diameter of 1.5 cm and a height of 1.5 cm. A sample of size 1-0.5 g. sample wt. per sq. cm. and area 2.25 cm.<sup>2</sup> It is shown that self-absorption correction can be eliminated; the value measured K-activity at 33 cm above the sample is 1.00 times the value measured at 10 cm above the sample.

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1"

KORENMAN, I.M.

Characteristics of isomorphic and adsorptive coprecipitation.  
Zhur. ob. khim. 25 no.13:2399-2401 D '55. (MLRA 9:3)

1. Gor'kovskiy gosudarstvennyy universitet.  
(Precipitation (Chemistry))

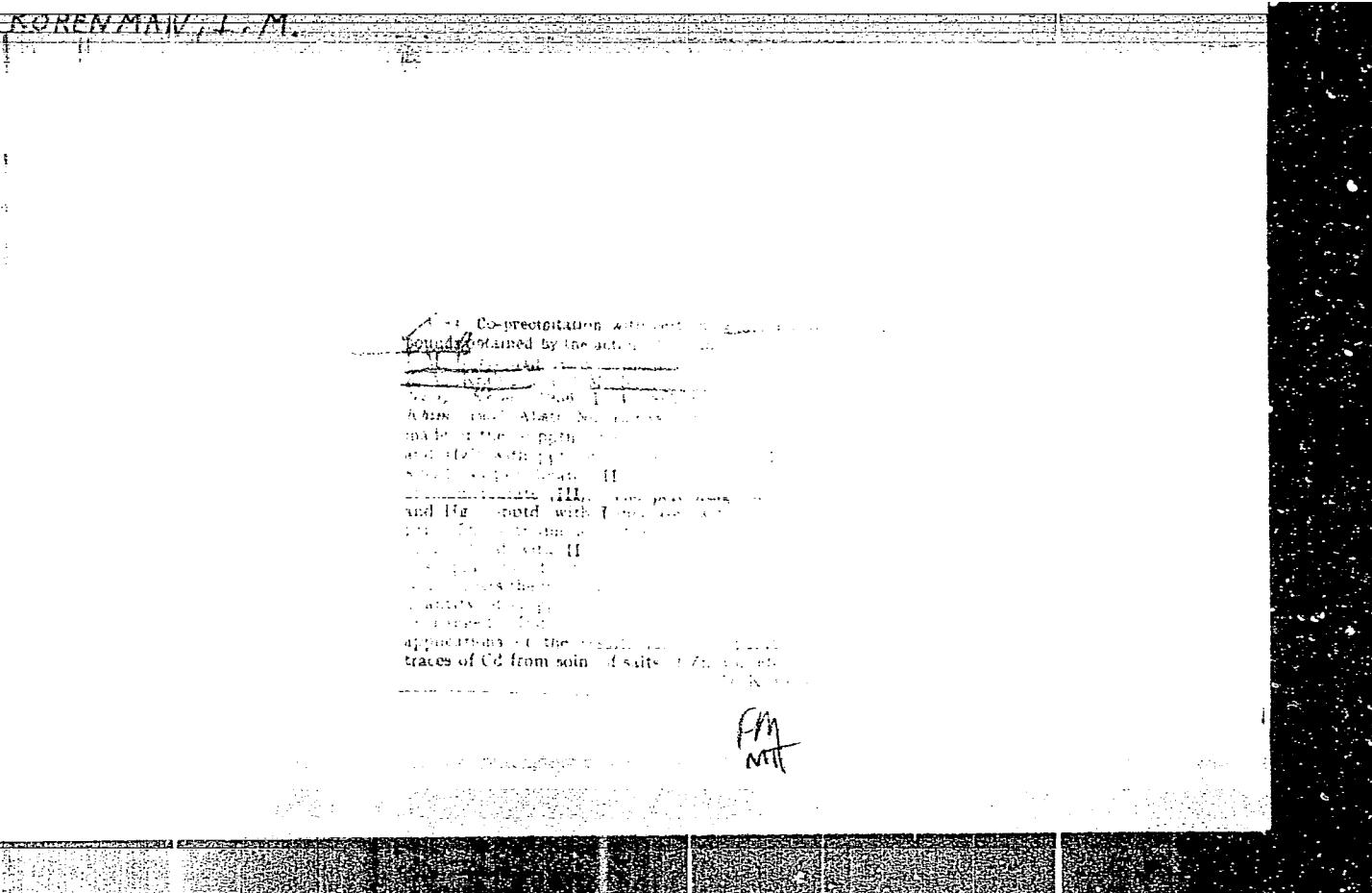
KORENMAN, I. M. and SHEYANOVA, F. R.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R00082462000

"Investigation by the Method of Radioactive Isotopes of the Extraction of Some Inner-Complex Compounds," a report presented at the USSR Conference on Application of Tracer Atom Methods in Chemistry of Complex Compounds, Kiev, 5-8 October, 1955, Zhur. Neorgan. Khim., 1, No.2, 1956

Above conference was described in an article by Z. A. SHEK

/ 314 Extraction of certain aromatic compounds by the radicles and roots of *Chenopodium*



Korenman, I.M.

*Heteropolymer and identification of some carboxylate  
esters. I. M. Korenman and A. N. Lepeshkin  
J. Org. Chem., 1956, 21, 1371 and references therein.*

1. Preparation of the ester. An ester may be prepared by combining stoichiometric amounts of the acid and the esterifying agent in a small test tube. The mixture is heated until a portion of the ester is formed. The ester is then examined under a microscope. If the ester is not formed, the acid and the ester are washed off with ether, dried, and treated again with the acid and the esterifying agent. This process is repeated until the ester is formed. The characteristics of the ester are listed below.

2. Identification of the ester. The ester is identified by its infrared spectrum. The infrared spectrum of the ester is compared with that of the ester formed from the acid and the esterifying agent.

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CIA-RDP86-00513R000824620008-1

KORENMAI, D.M.

Chromotypic and X-ray  
tervalent thalium

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1"

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1

KORENMANN, E.M.

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824620008-1"

KORENMAN, I. M.

Conference on the application of tracers in chemistry, held at the  
Gorkiy State University. Zhur.anal.khim. 11 no.3:367-368 My-Je '56.  
(MLIA 9:8)

(Gorkiy--Radioactive tracers)

KORENMAN, I. M.

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R00082462000

G-2

USSR/Analysis of Inorganic Substances.

Abs Jour: Ref Zhur-Khimija, No 6, 1957

Author : I. M. Korenman, A. A. Tumanov.

Inst : -  
Title : Precipitation of Cadmium together with Anti-  
pyrine Tetrabromomercuriate.

Orig Pub: Zh. Analit. Khimii, 1956, 11, No 4, 430 - 436.

Abstract: In order to separate small quantities of Cd by coprecipitation, the little soluble compound formed at the interreaction of Hg<sup>2+</sup> with antipyrine and bromide, (C<sub>11</sub>H<sub>12</sub>ON<sub>2</sub>)<sub>2</sub>·H<sub>2</sub>(HgBr<sub>4</sub>). 2C<sub>11</sub>H<sub>12</sub>ON<sub>2</sub> was used. For the determination of small quantities of coprecipitated Cd, Cd<sup>115</sup> was used, the initial specific activity of the

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CIA-RDP86-00513R000824620008-1

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CIA-RDP86-00513R000824620008-1"

KORENMAN, I.M.

Coprecipitation produced by the action of organic reagents.  
Zav.lab.22 no.2:146-154 P. '56. (MIRA 9:6)  
(Precipitation (Chemistry))

✓ 1453. Radiometric titration of zinc and copper.  
 M. Korenman, E. N. Sheyanova, E. A. Demina  
 and M. I. Shaposhnikova (N. I. Lobachevskii Gor'kiy  
 State Univ.), Zavod. Lab., 1978, 23 (10), 1143.

✓ 1454. Zinc is determined radiometrically by titration with  $K_4Fe(CN)_6$ , or with ammonium mercurithiocyanate on a micro-scale in the presence of  $^{65}Zn$ . In several centrifuge tubes similar vol. of the soln. to be analysed, together with 1 ml. of a soln. containing 0.14 mg. of  $^{65}Zn$ , are acidified with dil. HCl (1 + 1) and diluted with water so that each total vol. after addition of various amounts (0 to 1 ml.) of  $K_4Fe(CN)_6$  soln. (1 ml. = 1.00 mg. of Zn) is 3 ml. The solns. are centrifuged and 0.2 ml. of each is placed on filter-paper. After the papers have been dried, the radioactivities are determined and the results are plotted against the vol. of titrant. The end-point is read from the graph. Since the curve is linear over most of its course, the process can be shortened by determining two activities only.

the first corresponding to the original soln. and the second that of the liquid after addition of 30 to 70% of the amount of titrant necessary and extrapolating the line joining the points to zero activity. When Cu is also present the activity remains unchanged during the addition of  $K_4Fe(CN)_6$  soln. until the Cu is completely pptd. This fact enables Cu and Zn to be separately determined. Ammonium mercurithiocyanate can be used similarly in place of  $K_4Fe(CN)_6$  in the presence of  $^{65}Zn$  or, since Co is pptd. homorphically with Zn, in the presence of  $^{65}Co$ . Alternatively,  $^{113}In$  can be introduced into the titrant soln. G. S. Smith

KORENMAN; I.M.

3350. Determination of the solubility of  $\text{Co}[\text{Hg}(\text{SCN})_4]$ . I. M. Korenman, F. R. Sheyanova and N. N. Pavlyuchenko (Ural State Univ.) *Zhur. Osnich. Khim.*, 1959, 98 (2), 365-370. — By means of a radiometric micro-method based on the use of  $^{60}\text{Co}$ , the solubility of  $\text{Co}[\text{Hg}(\text{SCN})_4]$  in water at various temp. (1.09 mM at 10° C, 1.46 mM at 20° C, 1.98 mM at 30° C and 2.05 mM at 40° C) and in various electrolytes at 12.5° and 20° C is determined. Halides increase the solubility because of complex formation. In solutions of  $\text{SO}_4^{2-}$  and  $\text{NO}_3^-$ , the use of excess of 0.1 N  $\text{K}_2[\text{Hg}(\text{SCN})_4]$  gives the optimum conditions for ppt. In water and in dil. solutions of  $\text{KNO}_3$  and  $\text{K}_2\text{SO}_4$ , the solubility found graphically to correspond to zero ionic strength is  $1.25 \times 10^{-3} M$ , giving the activity product  $1.3 \times 10^{-4}$ .

G. S. Smith

KORENMAN, T. M.  
Radiometric titration of zinc and copper. I. M. Korenman, V. N. Shaykunova, E. A. Demina, and V. I. Shaposhnikova (N. I. Lobachevskii State Univ., Gor'ki). Zaretskaya Lab. 32, 1149-9 (1956). — The application of radiometric titration was tested in the detn. of Zn and Cu with K<sub>4</sub>Fe(CN)<sub>6</sub> and with (NH<sub>4</sub>)<sub>2</sub>Hg(CNS)<sub>4</sub>. A small amt. of Zn<sup>65</sup> was added to the Zn-salt soln., standard K<sub>4</sub>Fe(CN)<sub>6</sub> was added, the soln. was centrifuged, and the activity of the filtrate was tested radiometrically. When Cu and Zn are both present, Cu is pptd. first with no changes in the soln. radioactivity and the Zn is pptd. second, thus permitting the detn. of Zn without intermediate filtration. In the case of (NH<sub>4</sub>)<sub>2</sub>Hg(CNS)<sub>4</sub>, some Hg<sup>203</sup> was added to the standard (NH<sub>4</sub>)<sub>2</sub>Hg(CNS)<sub>4</sub> soln., or some Zn<sup>65</sup> was added to the Zn-salt soln. In the first case, the end point was reached when the filtrate first became radioactive; in the second case,

when radioactivity of the filtrate dropped to 0. A modification of the latter method consisted in adding Co<sup>65</sup> to the soln. which appts. with the ZnFe(CN)<sub>6</sub>. The latter method extends the use of radiometric titrations to elements for which highly active isotopes are unobtainable or very expensive, but which are either copptd. with the radioactive isotope added or pptd. before the latter. IV. M. Sternberg

KORENMAN, I. M.

bog EMF

2

Measurement of weak  $\beta$ -emitters. I. M. Korenman and  
M. N. Baryshnikova (State Univ. ~~Verkin~~ Zhdanovskaya  
Lab. 22, 413-16 (1956). The quant. effects of various  
factors upon the radiation intensity from weak  $\beta$ -emitters  
were investigated by using a standard 0.2 ml. Cs salt soln.  
contg.  $Cd^{109}$ . The addn. of 1 meg. of uni- and bivalent  
salts reduced the radiation intensity the more the higher  
the valence of the salt added, and for elements of the same  
valence, the larger the 1 meg. wt. of the added ele-  
ment. The filter paper d. (g./sq. cm.) also affected the  
radiation intensity. The effects were not directly propor-  
tional to the units. of the foreign elements added.

W. M. Sternberg

13. Solubility product of beryllium hydroxide.  
Y. M. Korenman, F. S. Frum and G. A. Levgurova  
Soviet Patent No. 121,066  
Date of filing: 28. 1. 1956  
The solubility product of the hydroxide of beryllium was determined by the method of Frum and Korenman (Zhur. Tekhn. Kemi 1956, 10, 204) and Frum and Levgurova (Zhur. Tekhn. Kemi 1956, 10, 204).  
It is  $1.8 \times 10^{-11}$  from measurements at 5.03 and 2.01 M. From measurements at 0.001 and 0.0001 M. The solubility product is  $1.8 \times 10^{-11} M^2$ . The first dissociation constant is calculated from the solubility product and the acid dissociation constant and the known value ( $6 \times 10^{-11}$ ) of the second dissociation const. is  $1.8 \times 10^{-4}$ . G. S. SMITH

KORENMAN, F. M.

Category: USSR / Physical Chemistry

Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimii, No 9, 1957, 29952

Author : Korenman I. M., Sheyanova F. R., Potapova M. A.

Inst : not given

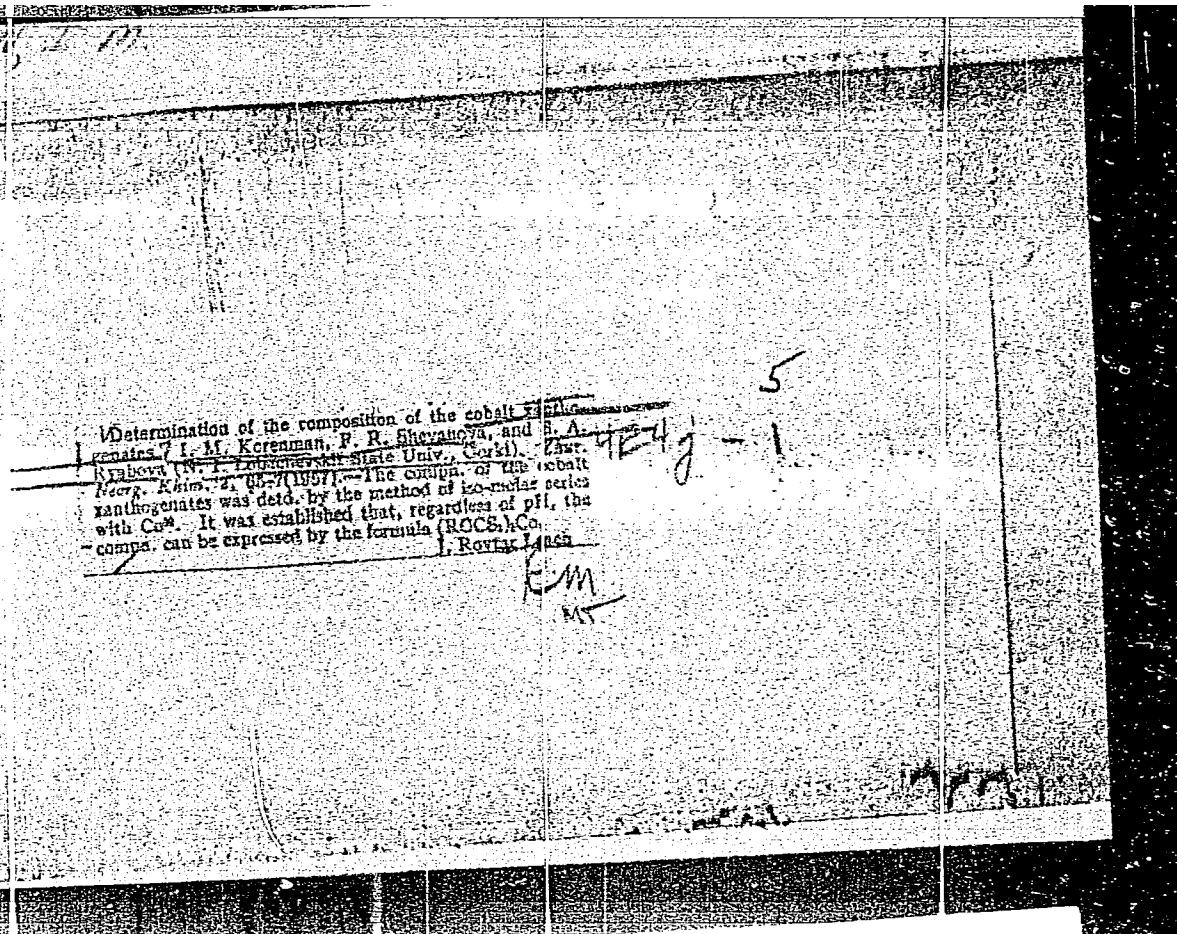
Title : Determination of Solubility of Difficultly Soluble Compounds by Means of Non-Isotope Radioactive Tracers

Orig Pub: Zh. obshch. khimii, 1956, 26, No 8, 2114-2118

Abstract: Determination of solubility of difficultly soluble compounds by means of isomorphous non-isotope radioactive tracers. In this instance the tracer is isomorphously incorporated in the lattice of the compound under study. Solubility of Zn [Hg(CNS)<sub>4</sub>]<sup>-</sup>, Cd [Hg(CNS)<sub>4</sub>]<sup>-</sup> and Cu [Hg(CNS)<sub>4</sub>]<sup>-</sup> was determined by the use of Co<sup>60</sup>. As isomorphous radioactive admixtures were also utilized Cd<sup>113</sup> and Zn<sup>65</sup>. By the described method the solubility is determined with satisfactory accuracy.

Card : 1/1

-72-



SOV/137-58-9-20307

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 313 (USSR)

AUTHORS: Korenman, I.M., Russkikh, A.A.

TITLE: Nephelometric Microdetermination of Chlorides and Lead  
(Nefelometricheskoye mikroopredeleniye khlorida i svintsa)

PERIODICAL: Nauchn. raboty khim. labor. Gor'kovsk. n.-i. in-ta gigiyeny  
i profbolezney, 1957, Nr 6, pp 17-22

ABSTRACT: The nephelometric microanalysis method was developed for the determination of chlorides and Pb in small amounts of solution by the method of standard series of 0.1-5.0 γ in 5-100 μl of solution with a relative error of 5-6%. The determination of chlorides is carried out with AgNO<sub>3</sub>, after the addition of which the solution is centrifuged and, after 10-15 min, its turbidity is compared. The maximum absolute error in the volume analyzed is 0.25γ. For the determination of Pb the reaction with K chromate in the presence of CH<sub>3</sub>COONa in 1% CH<sub>3</sub>COOH is used. To determine Pb, 10 μl of the standard solution containing 0-0.5 γ Pb<sup>2+</sup> is introduced into a series of test tubes each containing 10 μl of the solution, after which the

Card 1/2

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CIA-RDP86-00513R000824620008

### Nephelometric Microdetermination of Chlorides and Lead

solutions are centrifuged. To 5 μl of the solution are added 5 μl of 1:3 aqueous solution of glycerol and 5 μl of K chromate, the mixture is again centrifuged, stirred with a glass thread and after 20 min compared against a dark background. Results of determinations in 50 and 10 μl of solution are adduced. The method is applicable for the determination of Pb in small volumes of air in the workshops of industrial establishments.

K.K.

1. Chlorides--Determination    2. Lead--Determination    3. Microanalysis  
--Applications

Card 2/2

**Effect of radiometric duration** J. M. L. Lachapelle  
 R. Shekharova, N. M. Mezoua and M. I. Tsvetkov  
 N. D. Zelenskiy State Univ., Saratov,  
 Kalm. 12, 48-64 (1957). Radiometric titration is carried out by tagging the titrated ion with one of the two ions. In either case the reaction product is added to an organic solvent and the radioactivity of the organic layer is read. The 3 methods give equivalent titration curves. Zn and Hg were titrated with dithizone by the first of the above methods by using  $\text{Fe}^{2+}$  and light indicators and  $\text{CHCl}_3$  as organic liquid. The detection factor does not have to be known if the indicator does not contain any other radioactive element. The method of titrating Hg with dithizone is described.

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**CIA-RDP86-00513R000824620008-1"**

KORENMAN, E.M.

5  
1-454  
22

Extraction as method for physicochemical analysis.  
Y. M. Korenman and E. R. Shevchenko (N. I. Lobachevskii  
State Univ. (Vorl)). Zhur. Anal. Khim. 12, 280 (1957).

The effects of  $H^+$  and  $OH^-$  concns., the distribution coeff.,  
the relative vols. of aq. solns. of the cation and the anion,  
of the anion as well as the effect of various reagents  
and factors on the completeness of extr. Several conditions  
are derived when it is preferable to work with equal  
vols. of the aq. and org. solns. both having the same mol.  
concen. and both combined in a const. vol. and when it is  
preferable to work with equal vols. of the aq. and org. soln.,  
varying their respective concen. but keeping the sum of  
reacting mols. const. In phys.-chem. analysis the ext. is  
used for detg. its optical d. For very dil. exts., faintly  
colored, and colorless ones it is suggested to use radiomo-  
tetric and det. the compn. radionuclides. This procedure  
was used for detg. the compn. of Zn, Hg, and Cu in  
thiazine, quinolinolate, and 1-nitroso-1-naphtholite.

M. U. b.

R. M. P.

KORENMAN, I.M.

KORENMAN, I.M.; SHEYANOVA, F.R.; ROSHCHINA, R.V.

Investigating some azo dyes as reagents for indium [with summary  
in English]. Zhur.anal.khim. 12 no.4:476-480 Jl-Ag '57.  
(MIRA 10:10)

1.Gor'kovskiy gosudarstvennyy universitet im. N.I. Lobachevskogo.  
(Azo dyes) (Indium)

KORENMAN, I.M.

Inorganic microanalysis in chemistry. Zhur. anal. khim. 12 no. 5  
665-667 8-0 '57. (MIRA 10:11)  
(Microchemistry)